

STANDARD DRAWINGS AND DETAILS

FOR

REVISED JULY 2016 CONSTRUCTION PROJECTS IN VERNAL CITY

CRITICAL NOTES:

THESE STANDARD DRAWINGS ARE PROVIDED TO ACCOMPANY THE VERNAL CITY STANDARD SPECIFICATIONS. THE STANDARD DRAWINGS AND SPECIFICATIONS ARE TO GOVERN ALL WORK DONE IN THE VERNAL CITY RIGHT-OF-WAY. ALL CONSTRUCTION SHALL BE AS PER CURRENT APPLICABLE VERNAL CITY, UTAH STATE, AND FEDERAL STANDARDS. IN THE EVENT OF DISCREPANCIES BETWEEN SAID STANDARDS AND ANY ADDITIONAL DRAWINGS, THE MOST RESTRICTIVE IN FAVOR OF VERNAL CITY SHALL PREVAIL. ALL WORK PERFORMED IN EXISTING AND FUTURE VERNAL CITY RIGHT-OF-WAY SHALL BE PERFORMED ACCORDING TO THE CURRENT VERNAL CITY STANDARDS. NO DEVIATION FROM VERNAL CITY STANDARDS WILL BE GRANTED UNLESS BY WRITTEN PERMISSION FROM VERNAL CITY STREETS SUPERINTENDENT OR VERNAL CITY WATER & SEWER SUPERINTENDENT ONLY.

NO WATER OR SEWER COMPONENTS SHALL BE INSTALLED UNTIL AFTER WRITTEN APPROVAL FROM VERNAL CITY WATER & SEWER SUPERINTENDENT AND UTAH DIVISION OF ENVIRONMENTAL QUALITY.

PERSONS PERFORMING WORK IN THE RIGHT-OF-WAY SHALL PROVIDE A 24-HOUR LOCAL RESPONSE NUMBER. RESPONSE TIME TOWARD COMPLAINT RESOLUTION IS ONE HOUR FOLLOWING RECEIPT OF COMPLAINT. IF RESPONSE AND RESOLUTION ARE NOT PROVIDED IN A TIMELY MANNER, VERNAL CITY SHALL RETAIN THE RIGHT TO PROVIDE RESOLUTION WITH THE BILL FOR SERVICES RENDERED TO BE PAID BY THE PERSONS PERFORMING THE WORK.

SIGNS POSTING THE 24-HOUR CONTACT NUMBERS SHALL BE PLACED AT EACH MAJOR ACCESS INTO THE PROJECT WORK AREA AND SHALL REMAIN UNTIL THE PROJECT IS COMPLETE. IF THERE ARE MULTIPLE WORK AREAS, EACH AREA SHALL BE SO SIGNED.

PERSONS PERFORMING WORK ON OR NEAR VERNAL CITY ROADS SHALL BE RESPONSIBLE FOR ALL DAMAGES TO THE ROADWAY OR ROADWAY SHOULDER CAUSED AS A DIRECT OR INDIRECT RESULT OF SAID WORK AND WILL, AT THEIR OWN EXPENSE, REPAIR ANY DAMAGED ROADWAYS OR SHOULDERS PRIOR TO COMPLETION OF THE WORK.

DUE TO THE CRITICAL NATURE OF ADA STANDARDS, ANY PERSONS PLACING CONCRETE IN VERNAL CITY MUST BE TRAINED AND KNOWLEDGEABLE IN ADA PRACTICES.

CONSISTENT WITH THE PEDESTRIAN ACCESS REQUIREMENTS UNDER THE AMERICANS WITH DISABILITIES ACT OF 1990 (ADA) AND SECTION 504 OF THE REHABILITATION ACT OF 1973 (SECTION 504), VERNAL CITY REQUIRES FULL COMPLIANCE WITH THE MOST RECENT DRAFT GUIDELINES FOR ACCESSIBLE PUBLIC RIGHTS-OF-WAY. IN THE EVENT OF CONFLICT BETWEEN ANY VERNAL CITY REQUIREMENTS, THE LATEST ADAAG STANDARDS, AND THE LATEST DRAFT GUIDELINES FOR ACCESSIBLE PUBLIC RIGHTS-OF-WAY, ANY FINAL RULES, AND ANY ADDENDUMS, THE DOCUMENT THAT PROVIDES THE GREATEST ACCESSIBILITY FOR THOSE WITH DISABILITIES SHALL PREVAIL.

REVIEWED AND APPROVED BY:


STREET SUPERINTENDENT


WATER & SEWER SUPERINTENDENT



INDEX OF DRAWINGS

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NOTES

SUBGRADE PREPARATION

1. GRUB ROOTS TO 12" BELOW SUBGRADE
2. CUT/FILL TO LINE AND GRADE (ALLOW FOR 3" BASE MATERIAL)
3. SCARIFY 6" DEEP AND RECOMPACT TO 96% MAX. DRY DENSITY
4. COMPACT FILL TO MINIMUM OF 96% MAX. DRY DENSITY

BASE PREPARATION

1. 3" MINIMUM DEPTH UNTREATED BASE COURSE OR 3/8" PEA GRAVEL
2. COMPACT UNTREATED BASE COURSE TO MINIMUM OF 96% MAX. DRY DENSITY
3. COMPACT PEA GRAVEL WITH MINIMUM OF 3 PASSES WITH VIBRATING PLATE COMPACTOR
4. FINISH BASE SURFACE AT OR BELOW CONCRETE LINE

CURB GUTTER REQUIREMENTS

1. MINIMUM SLOPE 0.50%
2. HORIZONTAL ALIGNMENT 1-INCH MAX. FROM TRUE LINE AT ANY LOCATION, 1/2-INCH MAX. VARIANCE IN 10- FEET
3. VERTICAL ALIGNMENT 1/2-INCH MAX FROM DESIGN GRADE AT ANY LOCATION, 1/2" MAX. VARIANCE IN 10- FEET, NO PONDING
4. FLOOD GUTTER AFTER FINAL CURE, REPLACE ANY AREA WHERE PONDING IS FOUND
5. CONTRACTION JOINTS AT 10'-0" O.C. MAXIMUM, DEPTH 1/4 OF CONCRETE DEPTH MINIMUM
6. EXPANSION JOINTS AT 30'-0" O.C. MAXIMUM AND AT POINTS OF CURVATURE FOR STREET CORNERS
7. 1/2-INCH WIDE EXPANSION JOINT FILLER, FULL DEPTH OF CONCRETE, FLUSH WITH SURFACE
8. 1/2-INCH RADIUS CORNERS AT LIP AND TOP BACK OF CURB, AND AT OTHER LOCATIONS EXPOSED TO VIEW

SIDEWALK REQUIREMENTS

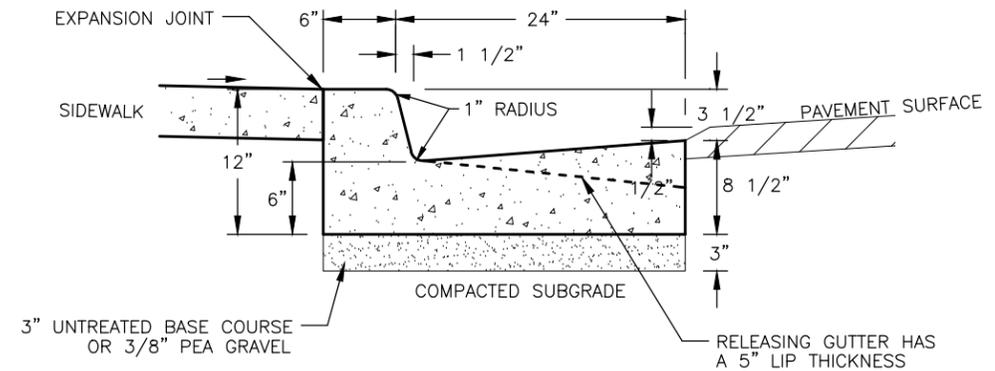
1. MINIMUM CROSS-SLOPE 1.5%, MAXIMUM CROSS-SLOPE 2.0% TOWARD GUTTER
2. CONTRACTION JOINTS AT 5'-0" O.C. MAXIMUM, DEPTH 1/4 OF CONCRETE DEPTH MINIMUM
3. EXPANSION JOINTS AT 30'-0" O.C. MAXIMUM AND AT POINTS OF CURVATURE FOR STREET CORNERS
4. MATCH EXPANSION JOINTS IN SIDEWALK WITH EXPANSION JOINTS IN CURB GUTTER
5. 1/2-INCH WIDE EXPANSION JOINT FILLER, FULL DEPTH OF CONCRETE, FLUSH WITH SURFACE
6. LONGITUDINAL JOINT REQUIRED AT CENTER (OR 10'-0" O.C. MAXIMUM) WHERE TOTAL SLAB WIDTH EXCEEDS 15- FEET
7. EXPANSION JOINTS BETWEEN BACK OF CURB AND SIDEWALK
8. EXPANSION JOINTS AT BACK OF SIDEWALK AT DRIVEWAYS
9. 1/2-INCH RADIUS CORNERS AT EDGES OF SIDEWALK AND OTHER LOCATIONS EXPOSED TO VIEW

CONCRETE

1. MINIMUM CEMENT CONTENT 6.5 BAGS PER CUBIC YARD
2. DESIGN 28-DAY COMPRESSIVE STRENGTH 4000 PSI, MINIMUM 28-DAY COMPRESSIVE STRENGTH 3500 PSI
3. AIR CONTENT 6% ± 1.0%
4. SLUMP 4 1/2-INCH MAXIMUM
5. TESTING
TOTAL POUR LESS THAN 5 CUBIC YARDS OR LESS - NO TEST REQUIRED
TOTAL POUR 5 CUBIC YARDS OR MORE - 1 TEST PER 50 CUBIC YARDS (OR FRACTION THEREOF)
COMPRESSIVE STRENGTH (3 CYLINDERS PER TEST)
AIR
SLUMP
6. BROOM FINISH PARALLEL TO GUTTER FLOWLINE
7. CURE AND SEAL WITH PRODUCT MEETING ASTM C-1315, TYPE 1, CLASS A.

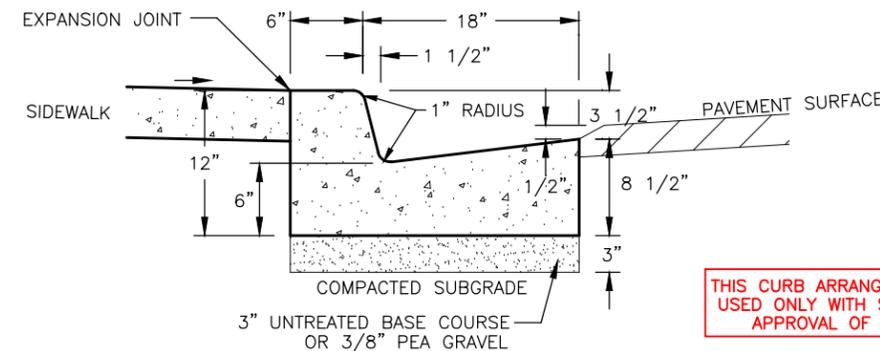
SLIP FORMING

1. SLIP FORMS MUST PRODUCE REQUIRED CROSS-SECTION, GRADE, JOINTS AND FINSH AS SPECIFIED FOR FORMED CONCRETE



TYPICAL 30" COMBINED CURB & GUTTER

NOT TO SCALE

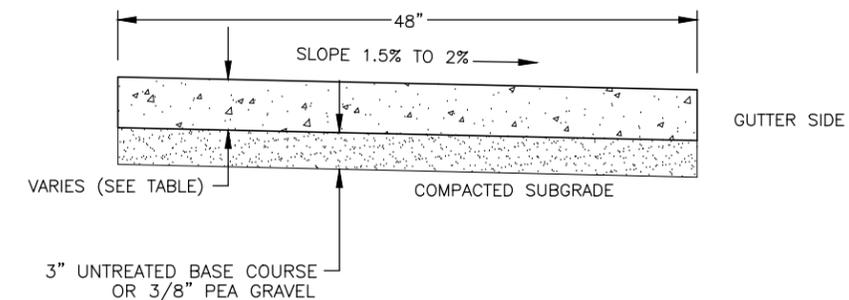


SPECIAL 24" COMBINED CURB & GUTTER

NOT TO SCALE

MINIMUM SIDEWALK THICKNESS

CONDITION	MINIMUM SIDEWALK THICKNESS
RESIDENTIAL ZONE (TYPICAL)	4"
RESIDENTIAL ZONE SIDEWALK AT DRIVEWAY APPROACH	6"
RESIDENTIAL ZONE SIDEWALK WHERE DRIVEWAY LOCATION IS UNKNOWN	6"
RESIDENTIAL ZONE DRIVEWAY WITHIN PARK STRIP	6"
COMMERCIAL & INDUSTRIAL ZONE (TYPICAL)	6"
COMMERCIAL & INDUSTRIAL ZONE SIDEWALK AT DRIVEWAY APPROACH	8"



TYPICAL 48" SIDEWALK

NOT TO SCALE

NO.	DATE	DESCRIPTION

IF THE ABOVE SCALE BAR DOES NOT MEASURE 1-INCH IN LENGTH, DO NOT USE THIS DRAWING FOR SCALING PURPOSES. DIMENSIONS AND MEASUREMENTS SPECIFIED IN THE DRAWING TAKE PRECEDENCE TO SCALED MEASUREMENTS.
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PROJECT MANAGER K. DESPAIN
CHECKED BY K. DESPAIN
DRAWN BY ESI
DRAWING SCALE NTS
ISSUE DATE JUNE 26, 2014

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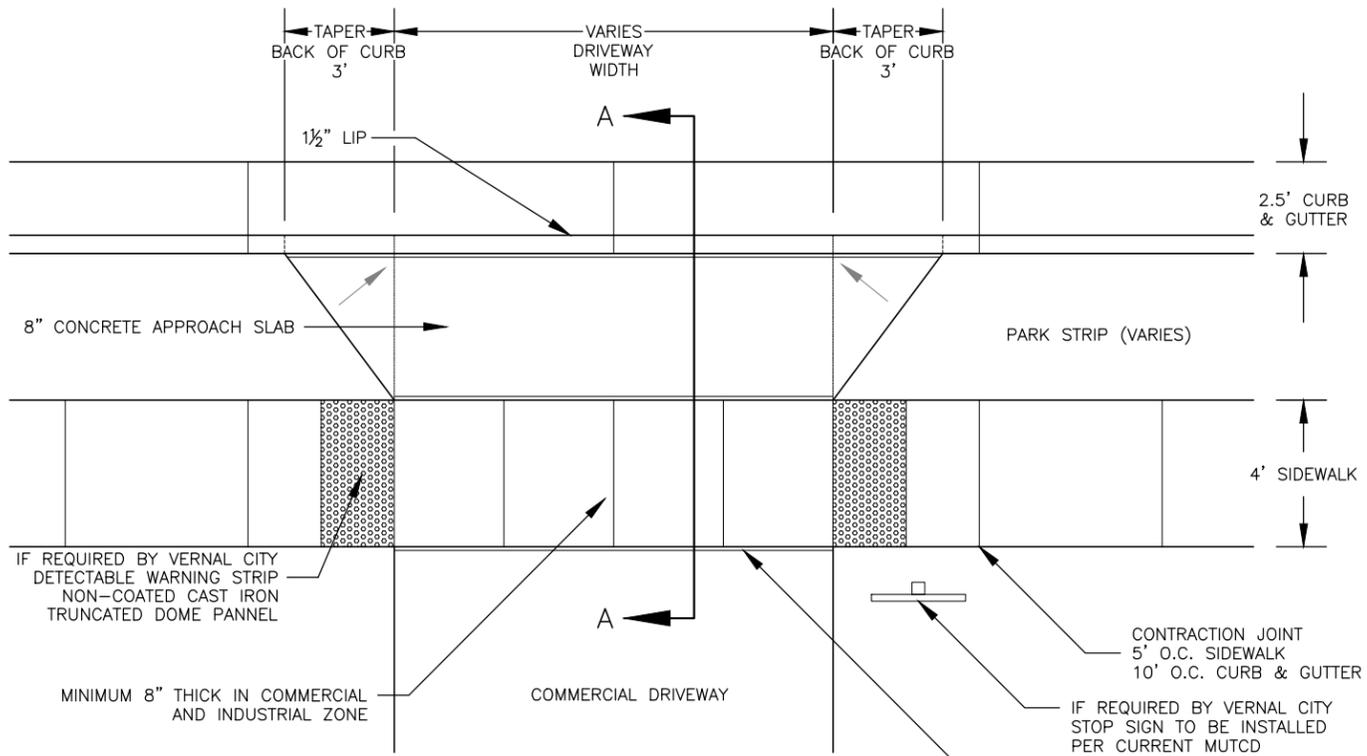
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VERNAL CITY
STANDARD DRAWING
STANDARD CURB & GUTTER, STANDARD 48" SIDEWALK

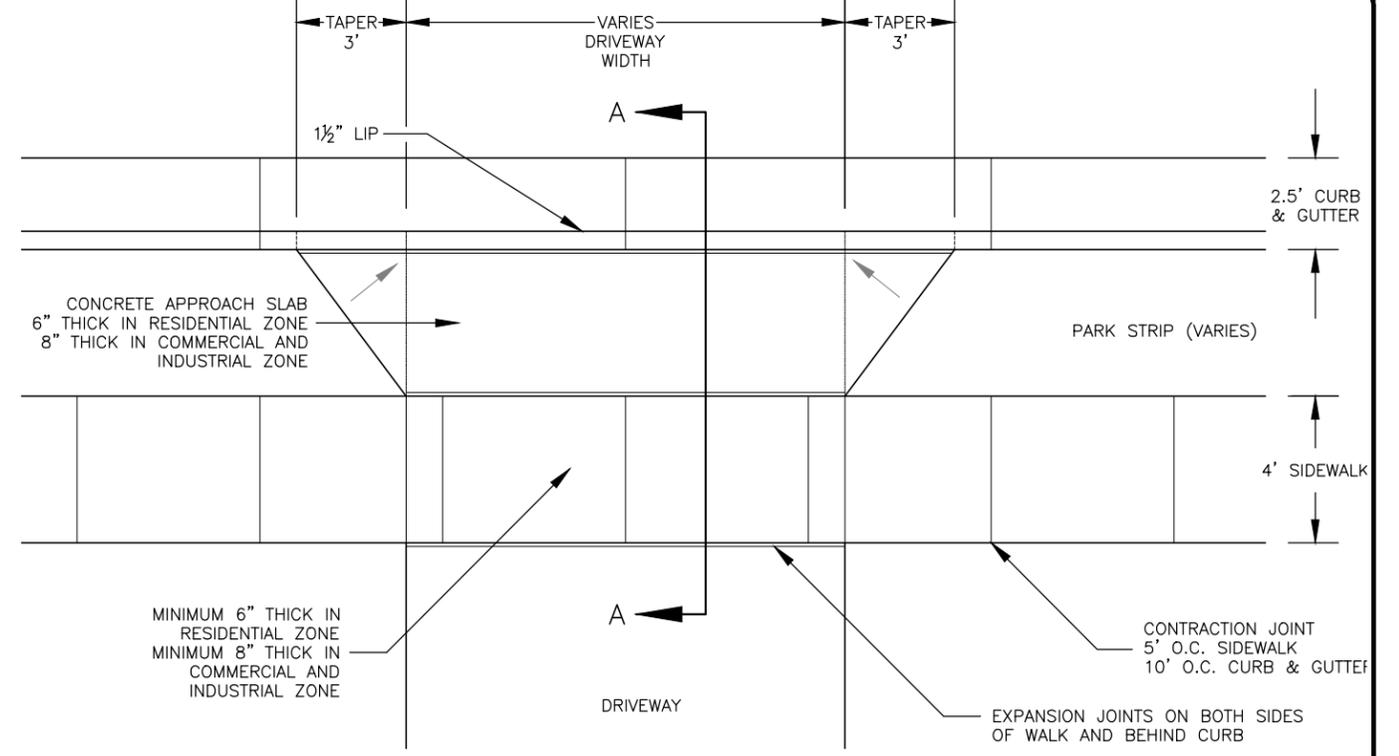
447 EAST MAIN STREET
VERNAL, UTAH 84078

PROJECT NUMBER	14026V
SHEET	1
OF	20
SHEET NUMBER	1

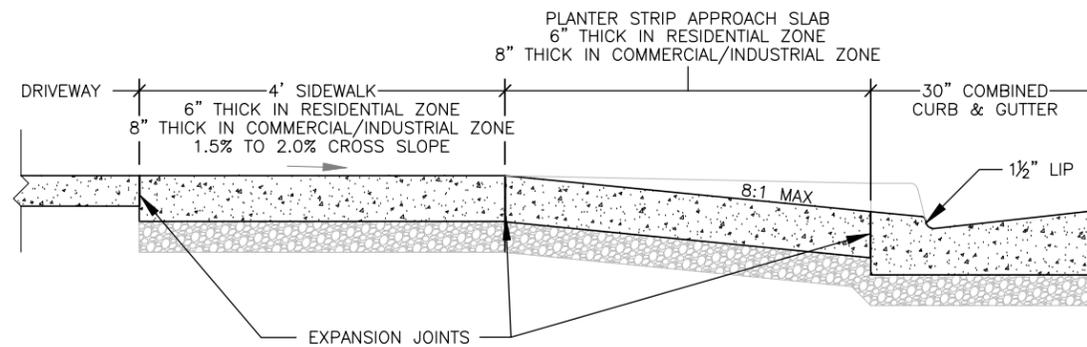
PROJECT NUMBER	14026V
SHEET	1
OF	20
SHEET NUMBER	1



COMMERCIAL FLARED DRIVE APPROACH WITH PARK STRIP
NOT TO SCALE



TYPICAL FLARED DRIVE APPROACH WITH PARK STRIP
NOT TO SCALE



SECTION VIEW A-A WITH PARK STRIP
NOT TO SCALE

NOTES

1. SEE TYPICAL CURB & GUTTER DETAIL
2. SEE TYPICAL SIDEWALK DETAIL
3. STOP SIGN MUST BE INSTALLED PER MUTCD, LATEST EDITION
4. DETECTABLE WARNING (TRUNCATED DOME) PANELS REQUIRED IF STOP SIGN REQUIRED
5. TRUNCATED DOME PANELS TO BE NON-COATED CAST IRON
6. EXPANSION JOINT REQUIRED ALONG BACK OF CURB WHEN ADJACENT TO CONCRETE

NO.	DATE	DESCRIPTION

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PROJECT MANAGER: K. DESPAIN
CHECKED BY: K. DESPAIN
DRAWN BY: ESI
DRAWING SCALE: NTS
ISSUE DATE: JUNE 26, 2014

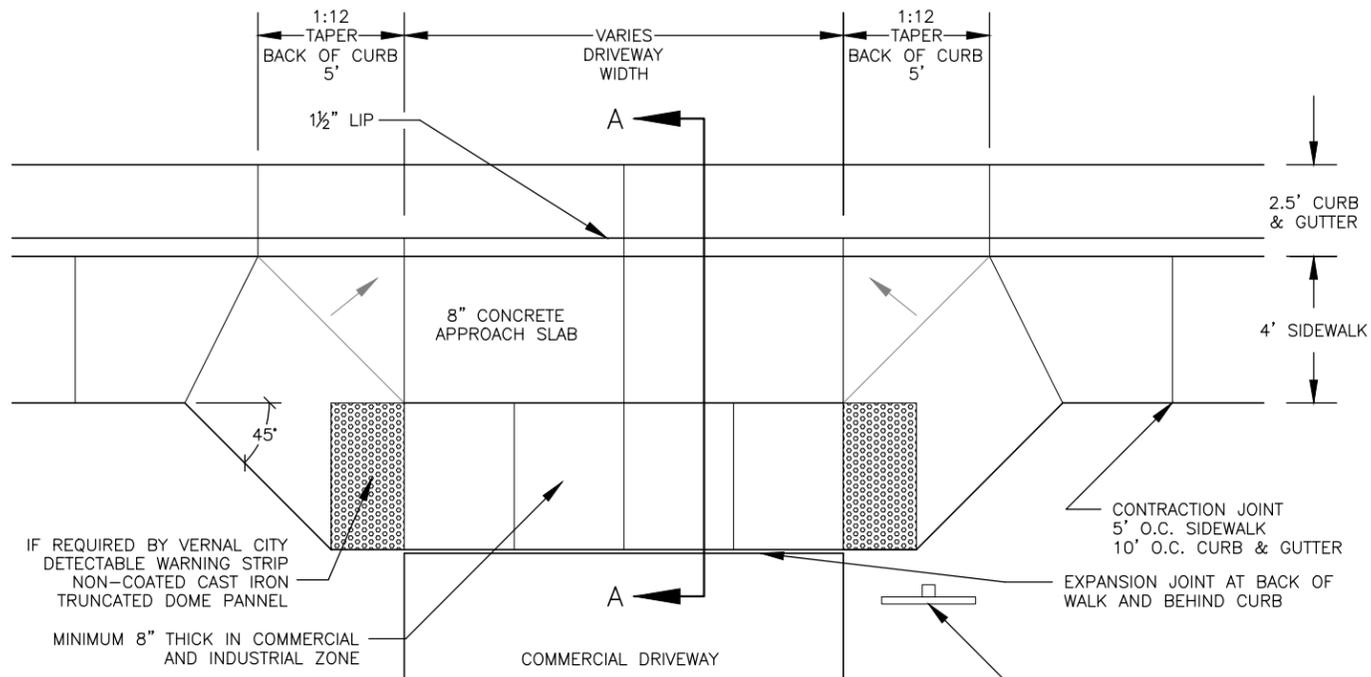
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VERNAL CITY
STANDARD DRAWING
DRIVE APPROACH - PARK STRIP

447 EAST MAIN STREET
VERNAL, UTAH 84078

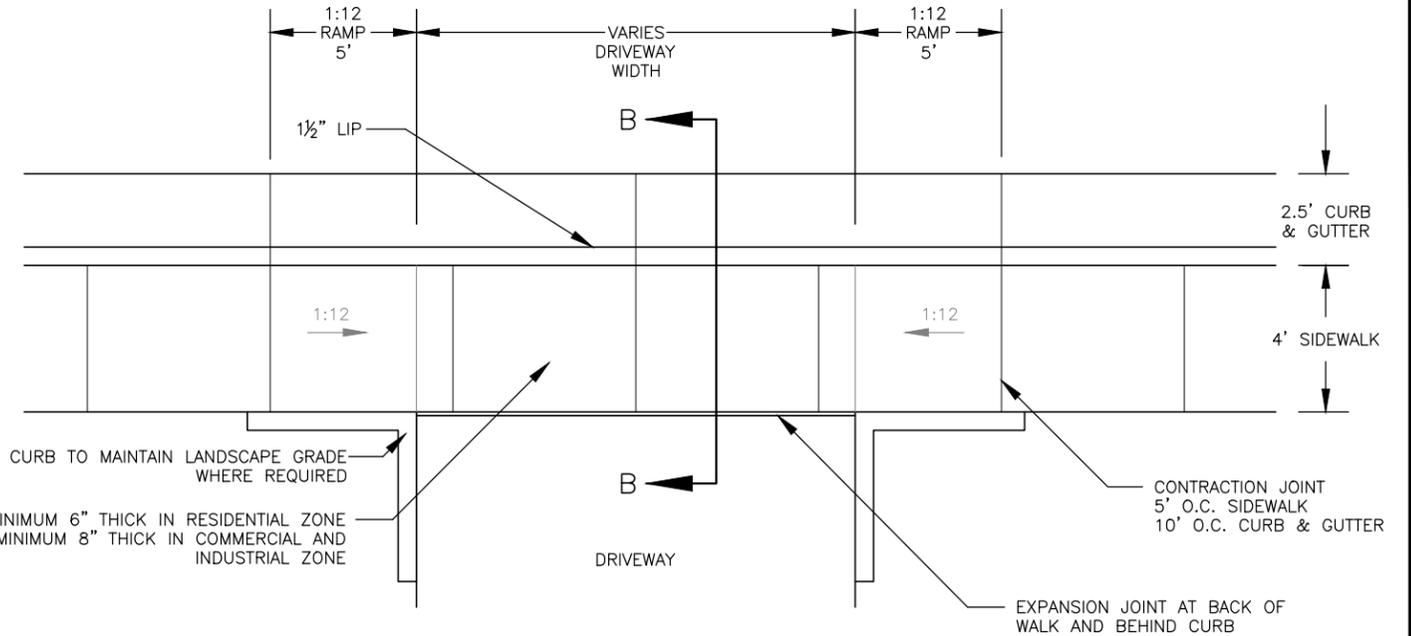
PROJECT NUMBER 14026V	
SHEET 2	OF 20
SHEET NUMBER 2	



**COMMERCIAL FLARED DRIVE APPROACH
4' WIDE SIDEWALK**

NOT TO SCALE

NO PARK STRIP



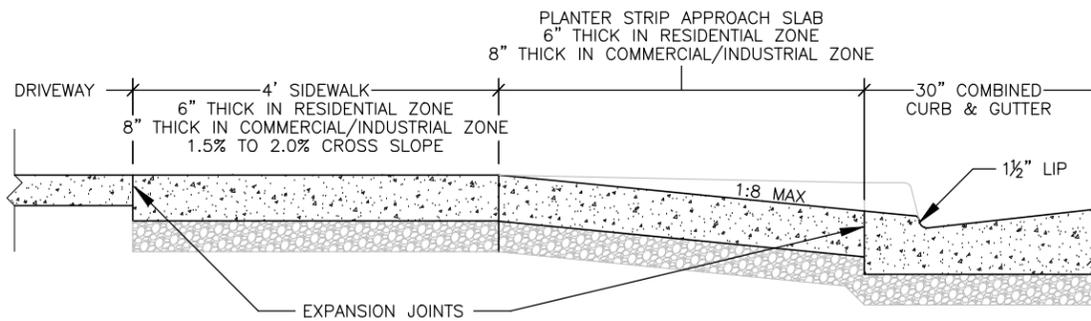
**TYPICAL FLARED DRIVE APPROACH
4' SIDEWALK**

NOT TO SCALE

NO PARK STRIP

(TO BE USED ONLY WITH WRITTEN PERMISSION FROM VERNAL CITY)

PREFERRED METHOD

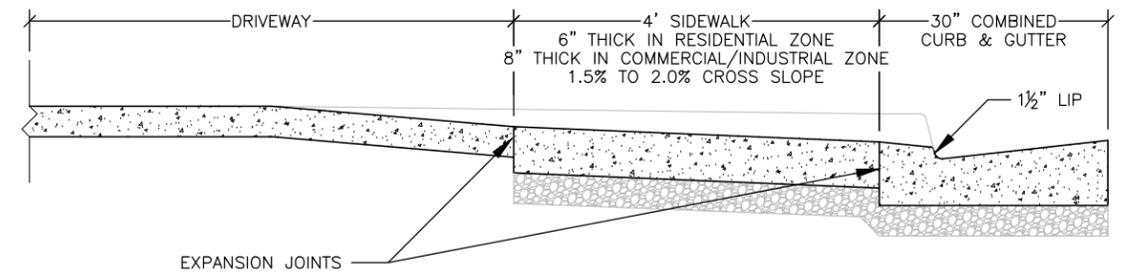


SECTION VIEW A-A

NOT TO SCALE

NO PARK STRIP

NOT PREFERRED METHOD DUE TO WATER PONDING



SECTION VIEW B-B

NOT TO SCALE

NO PARK STRIP

NOTES

1. SEE TYPICAL CURB & GUTTER DETAIL
2. SEE TYPICAL SIDEWALK DETAIL
3. STOP SIGN MUST BE INSTALLED PER MUTCD, LATEST EDITION
4. DETECTABLE WARNING (TRUNCATED DOME) PANELS REQUIRED IF STOP SIGN REQUIRED
5. TRUNCATED DOME PANELS TO BE NON-COATED CAST IRON
6. SIDEWALK MUST BE WITHIN DEDICATED RIGHT-OF-WAY
7. SLOPES INDICATED ARE MAXIMUM AND SHOWN AS V:H
8. EXPANSION JOINT REQUIRED ALONG BACK OF CURB WHEN ADJACENT TO CONCRETE

NO.	DATE	DESCRIPTION

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PROJECT MANAGER: K. DESPAIN
CHECKED BY: K. DESPAIN
DRAWN BY: ESI
DRAWING SCALE: NTS
ISSUE DATE: JUNE 26, 2014



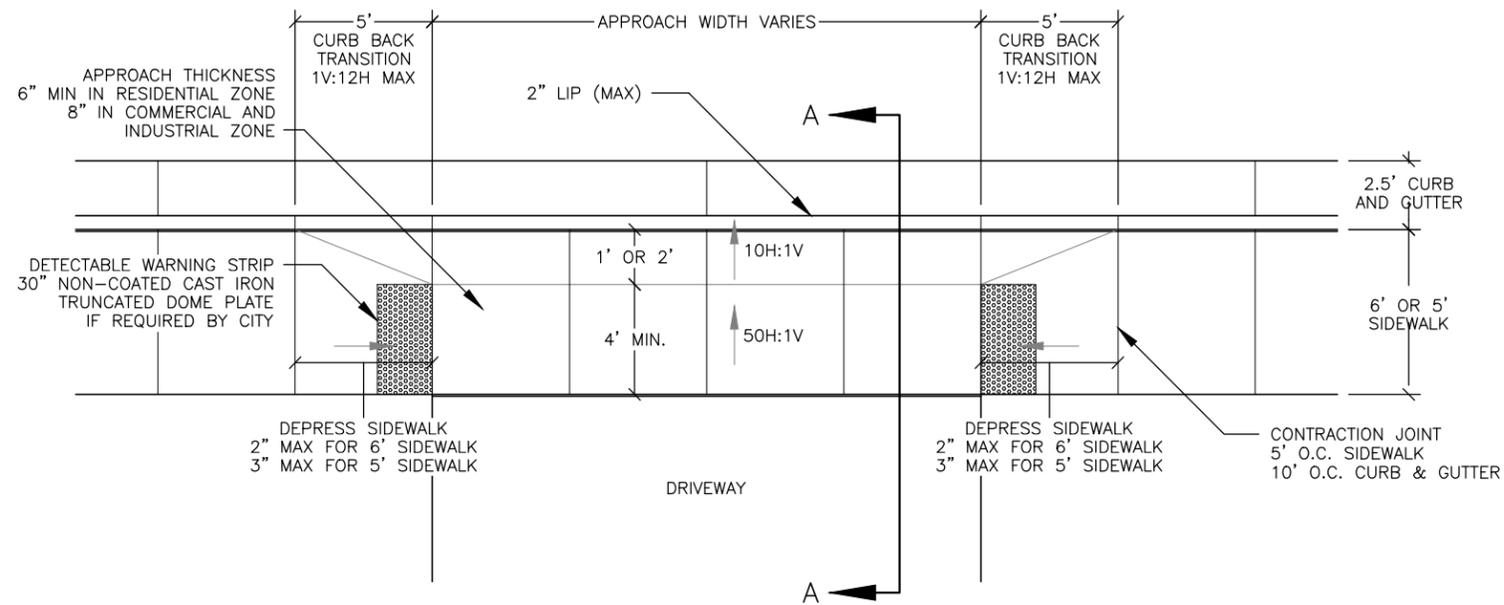
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447 EAST MAIN STREET

VERNAL CITY
STANDARD DRAWING
DRIVE APPROACH - NO PARK STRIP

VERNAL, UTAH 84078

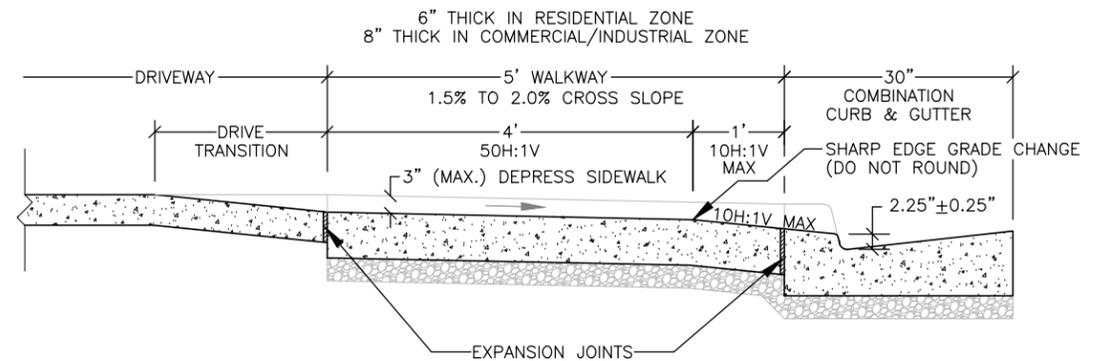
PROJECT NUMBER 14026V	
SHEET 3	OF 20
SHEET NUMBER 3	



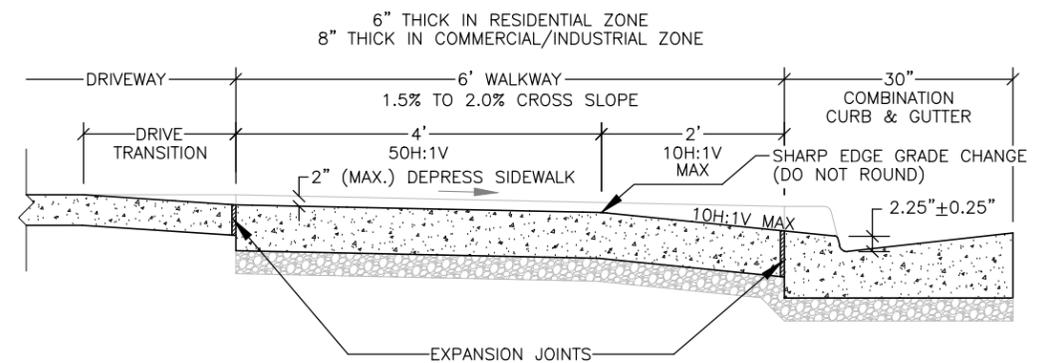
**COMMERCIAL AND RESIDENTIAL FLARED DRIVE APPROACH
5' AND 6' WIDE SIDEWALKS**

NOT TO SCALE

NO PARK STRIP



5' WALKWAY WITH NO PARK STRIP



6' WALKWAY WITH NO PARK STRIP

SECTION VIEW A-A

NOT TO SCALE

NO PARK STRIP

NOTES

1. SEE TYPICAL CURB & GUTTER DETAIL
2. SEE TYPICAL SIDEWALK DETAIL
3. STOP SIGN MUST BE INSTALLED PER MUTCD, LATEST EDITION
4. DETECTABLE WARNING (TRUNCATED DOME) PANELS REQUIRED IF STOP SIGN REQUIRED
5. TRUNCATED DOME PANELS TO BE NON-COATED CAST IRON
6. EXPANSION JOINT REQUIRED ALONG BACK OF CURB WHEN ADJACENT TO CONCRETE

NO.	DESCRIPTION	DATE

0 1 2
IF THE ABOVE SCALE BAR DOES NOT MEASURE 1 INCH IN LENGTH, DO NOT USE THIS DRAWING FOR SCALING PURPOSES. DIMENSIONS AND MEASUREMENTS SPECIFIED IN THE DRAWING TAKE PRECEDENCE TO SCALED MEASUREMENTS.
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PROJECT MANAGER: K. DESPAIN
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DRAWN BY: D. TANNER
DRAWING SCALE: NTS
ISSUE DATE: JUNE 26, 2014

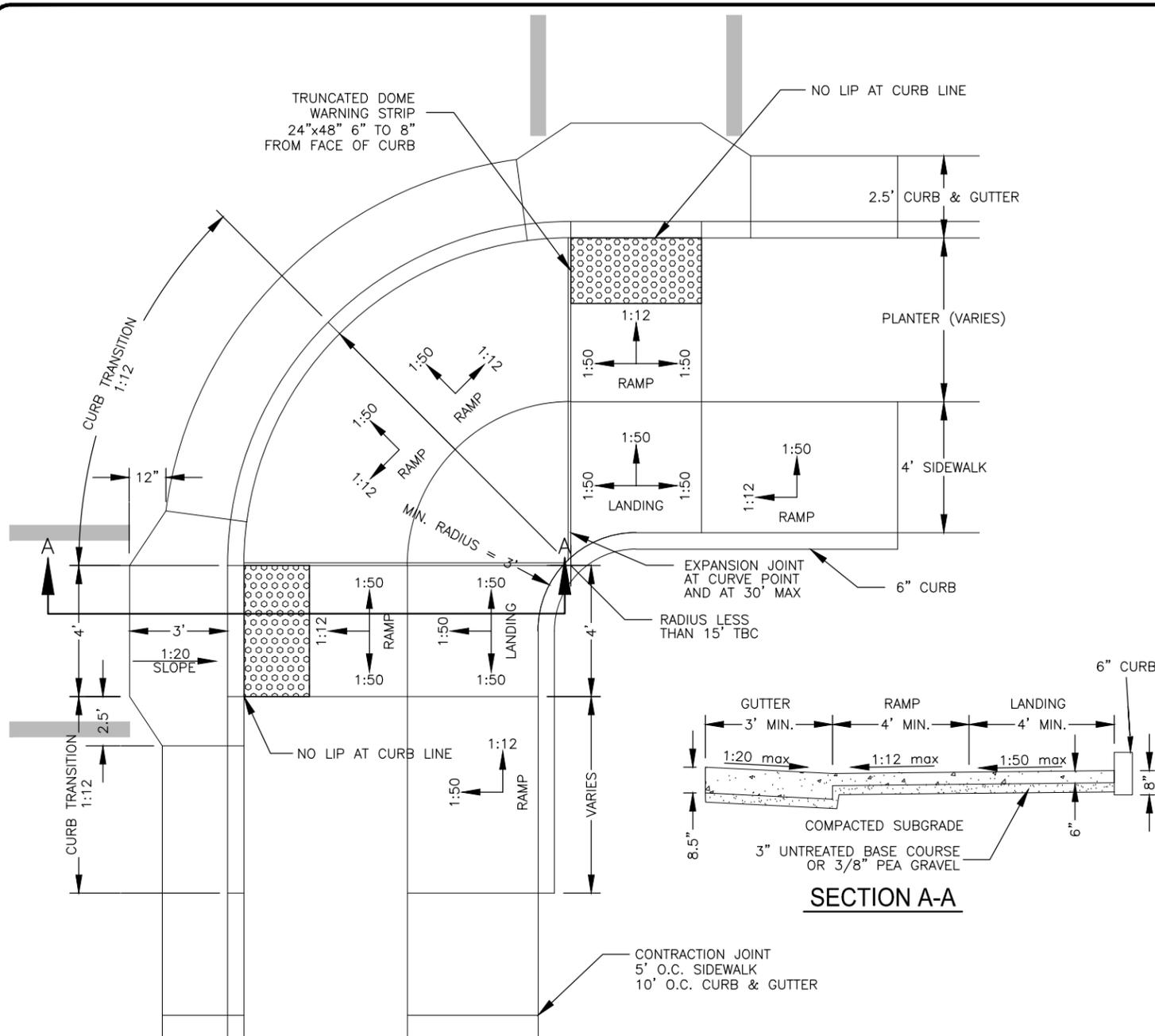
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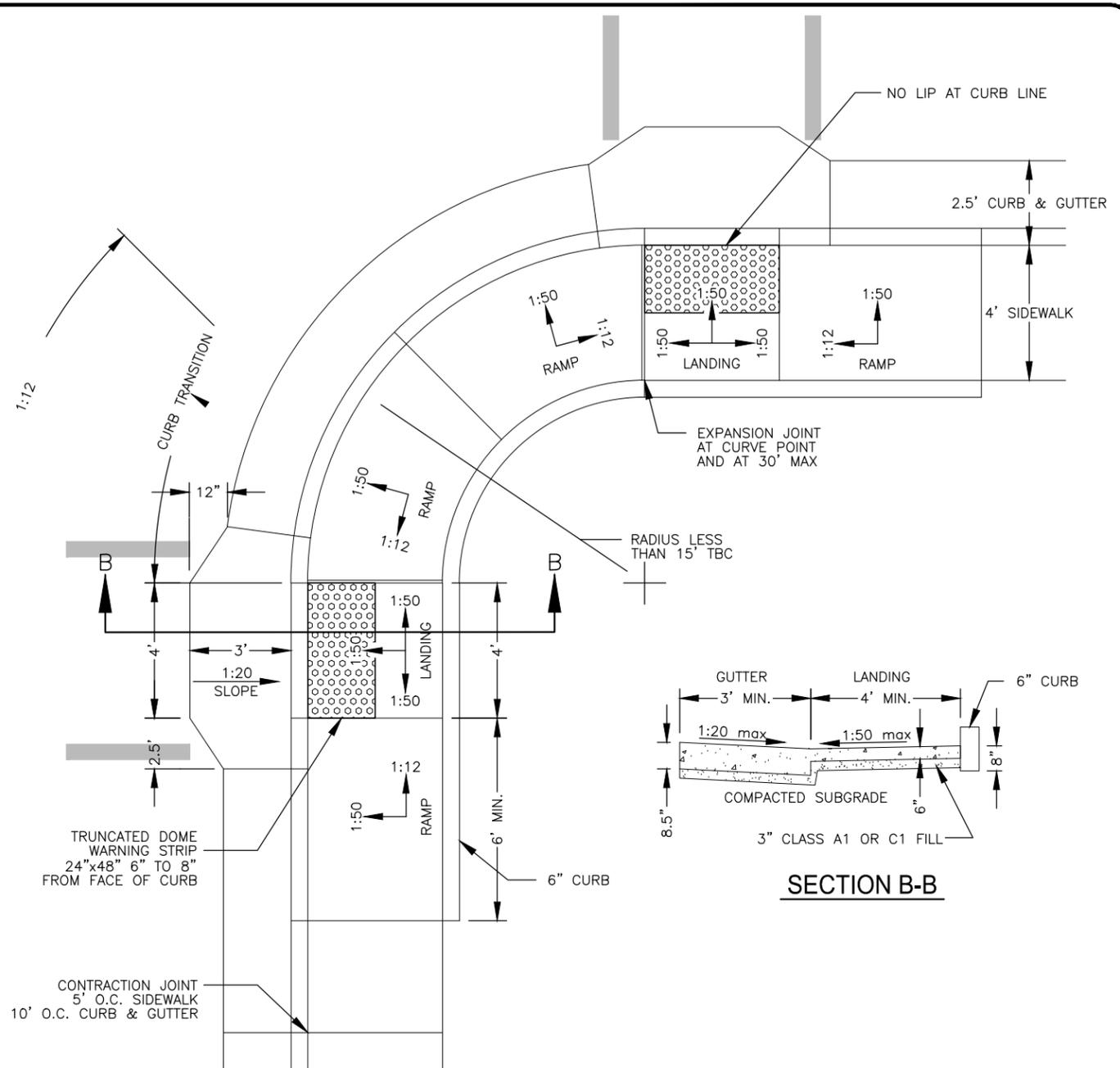
VERNAL CITY
STANDARD DRAWING
DRIVE APPROACH WITH 5' OR 6' SIDEWALKS

447 EAST MAIN STREET
VERNAL, UTAH 84078

PROJECT NUMBER 14026V	
SHEET 4	OF 20
SHEET NUMBER 4	



TYPICAL CORNER WHEELCHAIR RAMP TBC RADIUS LESS THAN 15'
 NOT TO SCALE WITH PLANTER



TYPICAL CORNER WHEELCHAIR RAMP TBC RADIUS LESS THAN 15'
 NOT TO SCALE NO PLANTER

NOTES:

1. SLOPES (V:H) INDICATED ARE MAXIMUM. WHERE 1:50 SLOPES ARE CALLED OUT THERE IS A MINIMUM SLOPE OF 1:66 (1.5%)
2. TRUNCATED DOME PANELS SHALL CONFORM WITH CURRENT LOCAL & FEDERAL ADA GUIDELINES AND AS APPROVED BY VERNAL CITY ENGINEER
3. TRUNCATED DOME PANELS SHALL BE SET IN CONCRETE WITH A SLOPE OF 7%-8% WHENEVER POSSIBLE DURING INSTALLATION
4. TRUNCATED DOME PANELS SHALL BE NON-COATED CAST IRON
5. PROVIDE DETECTABLE WARNING SURFACE FOR FULL WIDTH OF RAMP, LANDING, OR CURB CUT
6. DROP INLET BOXES SHALL NOT BE LOCATED WITHIN ADA RAMP AREA
7. SIDEWALK AND CURB GUTTER SHALL NOT BE MONOLITHIC
8. EXPANSION JOINT REQUIRED ALONG BACK OF CURB WHERE ADJACENT TO CONCRETE
9. NO LIP AT FLOWLINE WHERE GUTTER CROSSES RAMP
10. SEE CURB GUTTER AND SIDEWALK DETAILS FOR ADDITIONAL REQUIREMENTS
11. CONCRETE THICKNESS MUST BE 6" MINIMUM FOR ALL LANDINGS AND ALL RAMPS AND SIDEWALK BETWEEN LANDINGS
12. NEW DEVELOPMENT PLANS MUST HAVE SPECIFIC RAMP DESIGNS AND NOT TYPICAL VERNAL CITY DRAWINGS.

NO.	DATE	DESCRIPTION

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PROJECT MANAGER: **K. DESPAIN**

CHECKED BY: **K. DESPAIN**

DRAWN BY: **D. TANNER**

DRAWING SCALE: **NTS**

ISSUE DATE: **JUNE 26, 2014**

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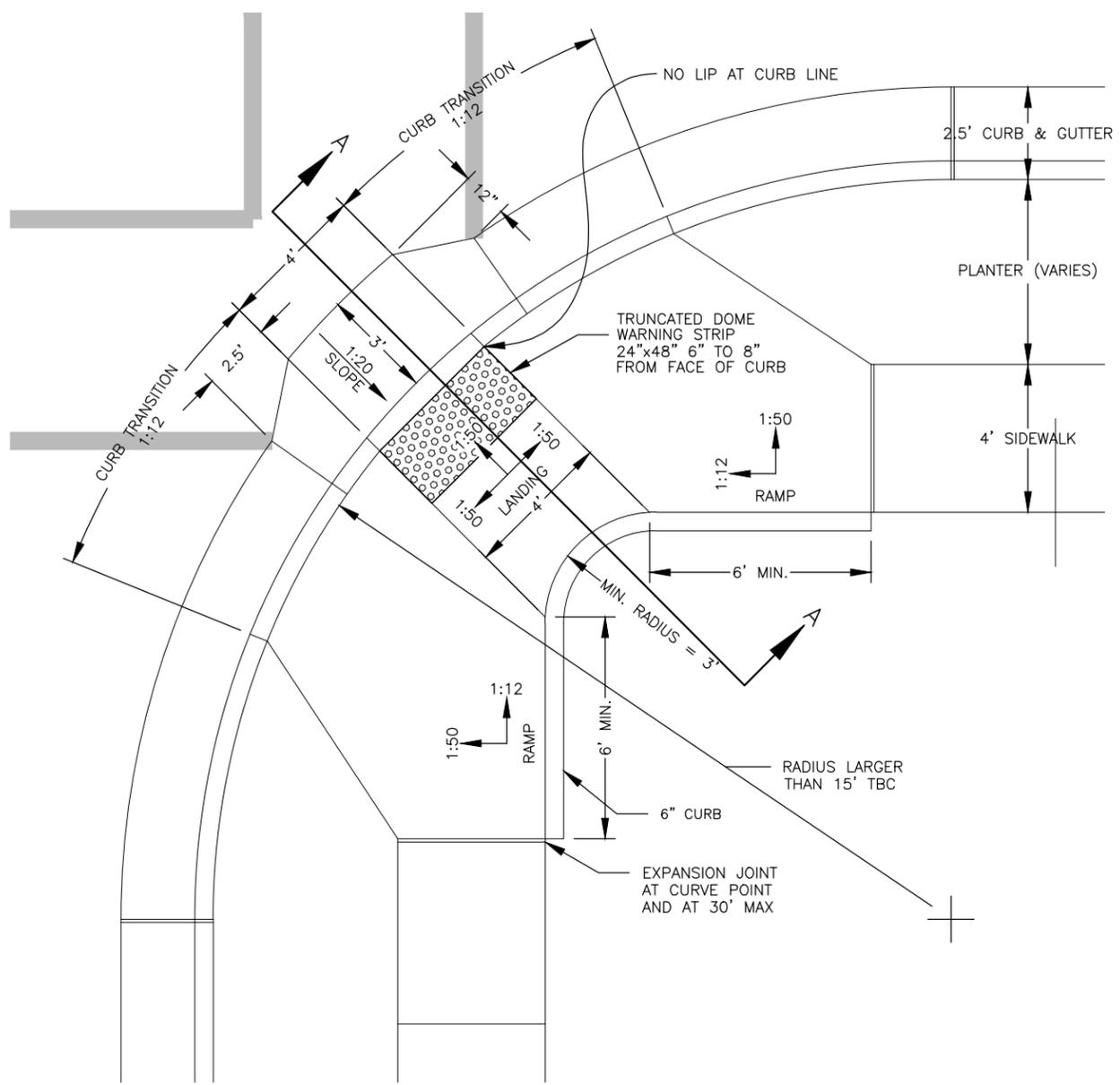
VERNAL CITY
STANDARD DRAWING
 TYPICAL CORNER RAMPS

447 EAST MAIN STREET
 VERNAL, UTAH 84078

PROJECT NUMBER: **14026V**

SHEET: **5** OF **20**

SHEET NUMBER: **5**

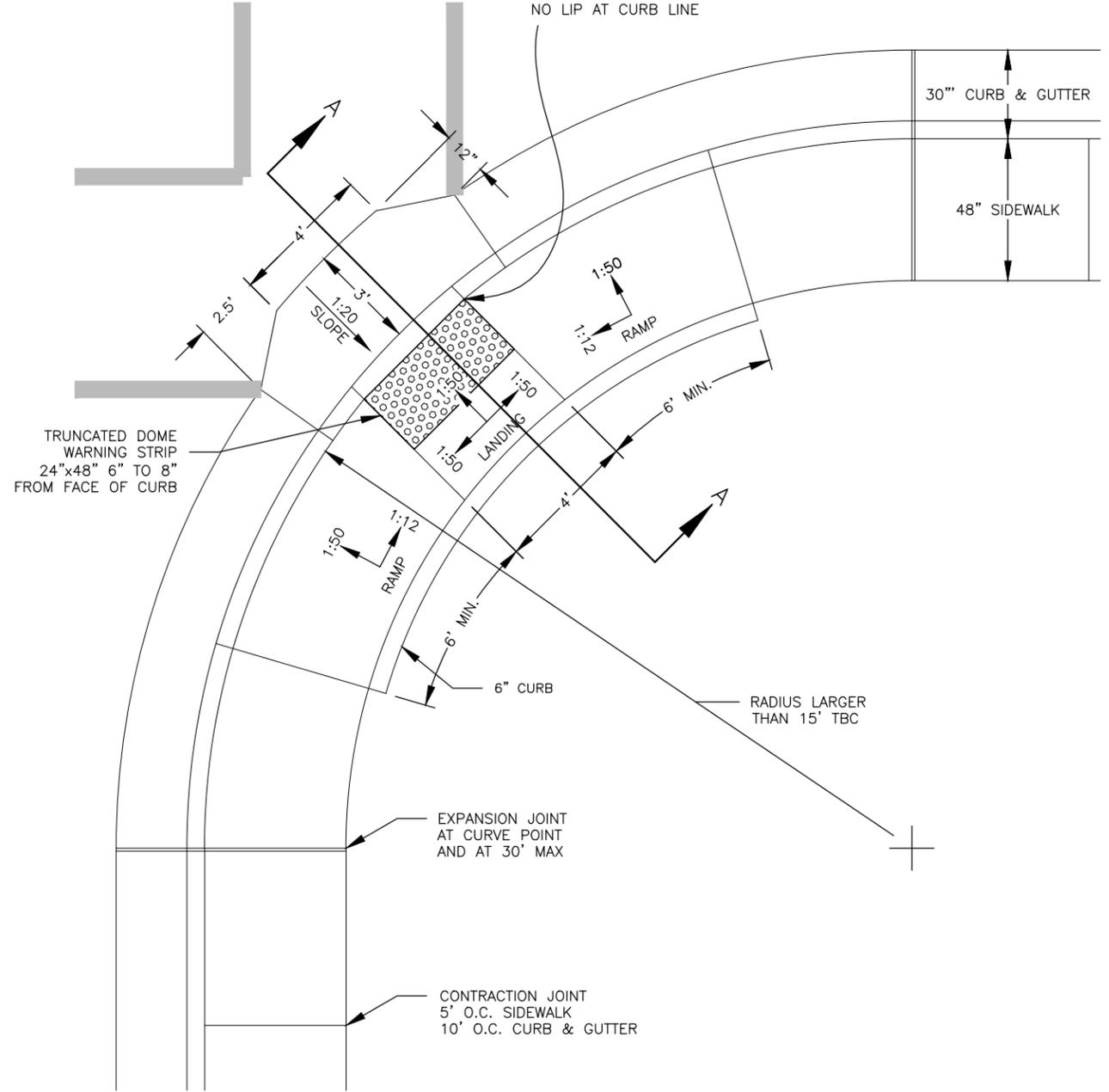


SPECIAL CORNER WHEELCHAIR RAMP TBC RADIUS LARGER THAN 15'

NOT TO SCALE

WITH PLANTER

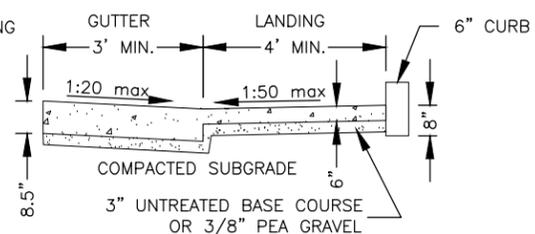
- NOTES:
- SLOPES (V:H) INDICATED ARE MAXIMUM. WHERE 1:50 SLOPES ARE CALLED OUT THERE IS A MINIMUM SLOPE OF 1:66 (1.5%)
 - TRUNCATED DOME PANELS SHALL CONFORM WITH CURRENT LOCAL & FEDERAL ADA GUIDELINES AND AS APPROVED BY VERNAL CITY ENGINEER
 - TRUNCATED DOME PANELS SHALL BE SET IN CONCRETE WITH A SLOPE OF 7%-8% WHENEVER POSSIBLE DURING CASTING
 - TRUNCATED DOME PANELS SHALL BE NON-COATED CAST IRON
 - PROVIDE DETECTABLE WARNING SURFACE FOR FULL WIDTH OF RAMP, LANDING, OR CURB CUT
 - DROP INLET BOXES SHALL NOT BE LOCATED WITHIN ADA RAMP AREA
 - SIDEWALK AND CURB GUTTER SHALL NOT BE MONOLITHIC
 - EXPANSION JOINT REQUIRED ALONG BACK OF CURB WHEN ADJACENT TO CONCRETE
 - NO LIP AT FLOWLINE WHERE GUTTER CROSSES RAMP
 - SEE CURB GUTTER AND SIDEWALK DETAILS FOR ADDITIONAL REQUIREMENTS
 - THESE CORNER WHEELCHAIR RAMP ARRANGEMENTS MAY NOT BE USED EXCEPT WITH PRIOR WRITTEN APPROVAL BY VERNAL CITY
 - CONCRETE THICKNESS MUST BE 6" FOR ALL RAMPS AND LANDINGS
 - NEW DEVELOPMENT PLANS MUST HAVE SPECIFIC RAMP DESIGNS AND NOT TYPICAL VERNAL CITY DRAWINGS.



SPECIAL CORNER WHEELCHAIR RAMP TBC RADIUS LARGER THAN 15'

NOT TO SCALE

NO PLANTER



THESE RAMP ARRANGEMENTS SHALL BE USED ONLY WITH SPECIAL WRITTEN APPROVAL BY VERNAL CITY

NO.	DATE	DESCRIPTION

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 PROJECT MANAGER: K. DESPAIN
 CHECKED BY: K. DESPAIN
 DRAWN BY: D. TANNER
 DRAWING SCALE: NTS
 ISSUE DATE: JUNE 26, 2014

CALDWELL RICHARDS SORENSEN **ANSWERS TO INFRASTRUCTURE**

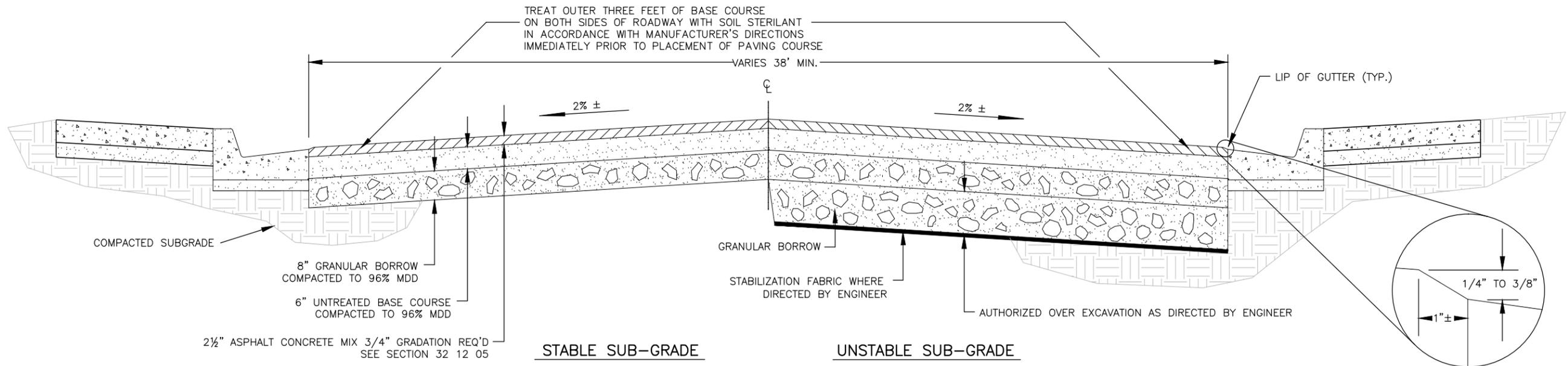
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VERNAL CITY
STANDARD DRAWING
SPECIAL CORNER RAMPS

447 EAST MAIN STREET
 VERNAL, UTAH 84078

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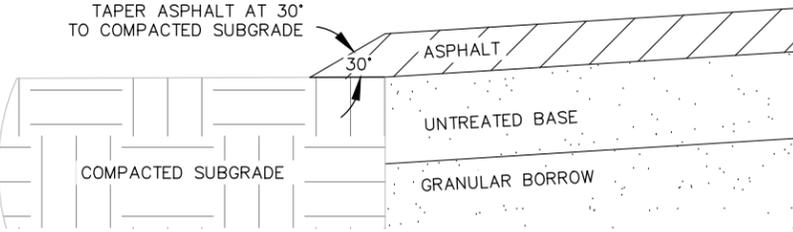
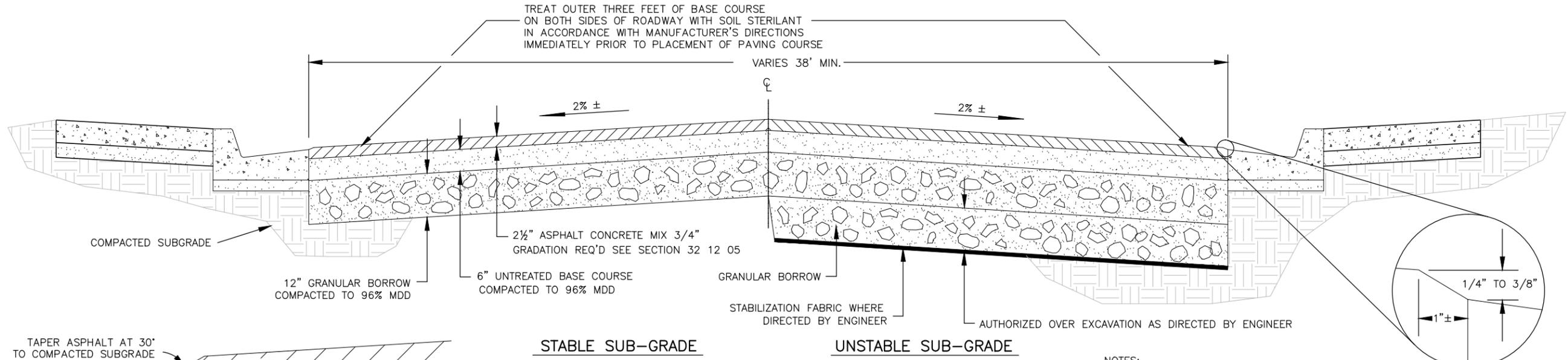
PROJECT NUMBER 14026V	
SHEET 6	OF 20
SHEET NUMBER 6	



FILL MATERIAL REFERENCE
SECTION 31 05 13

TYPICAL ROAD CROSS SECTION - LIGHT TO MEDIUM TRAFFIC VOLUME

NOT TO SCALE



SAFETY EDGE

NOT TO SCALE

NOTES:
ALTERNATE PAVEMENT SECTIONS MAY BE APPROVED BY VERNAL CITY BASED ON AASHTO PAVEMENT DESIGN METHODS, DETAILED TRAFFIC ANALYSES, AND LABORATORY TESTING OF UNTREATED BASE COURSE, GRANULAR BORROW, AND SUBGRADE SOILS.

USE SAFETY EDGE WHEN CURB AND GUTTER WILL NOT BE USED.

SEE STANDARD SPECIFICATION SECTION 31 05 13 FILL MATERIAL REFERENCES.

NEWLY CONSTRUCTED ROADS ARE TO RECEIVE A CHIP & SEAL TREATMENT WITHIN 1 YEAR OF ACCEPTANCE BY VERNAL CITY OR ALTERNATIVE SEAL TREATMENT AS APPROVED BY VERNAL CITY.

ALL SIGNAGE AND PAVEMENT MARKINGS SHALL MATCH CURRENT VERNAL CITY PRACTICES.

ALL NEW ROADWAYS SHALL HAVE A MINIMUM PAVED ROADWAY WIDTH (LIP OF GUTTER TO LIP OF GUTTER) OF 38 FEET.

TYPICAL ROAD CROSS SECTION - HEAVY TRAFFIC VOLUME

NOT TO SCALE

NO.	DESCRIPTION	DATE

IF THE ABOVE SCALE BAR DOES NOT MEASURE 1 INCH IN LENGTH, DO NOT USE THIS DRAWING FOR SCALING PURPOSES. DIMENSIONS AND MEASUREMENTS SPECIFIED IN THE DRAWING TAKE PRECEDENCE TO SCALED MEASUREMENTS.
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PROJECT MANAGER: K. DESPAIN
CHECKED BY: K. DESPAIN
DRAWN BY: D. TANNER
DRAWING SCALE: NTS
ISSUE DATE: JUNE 26, 2014

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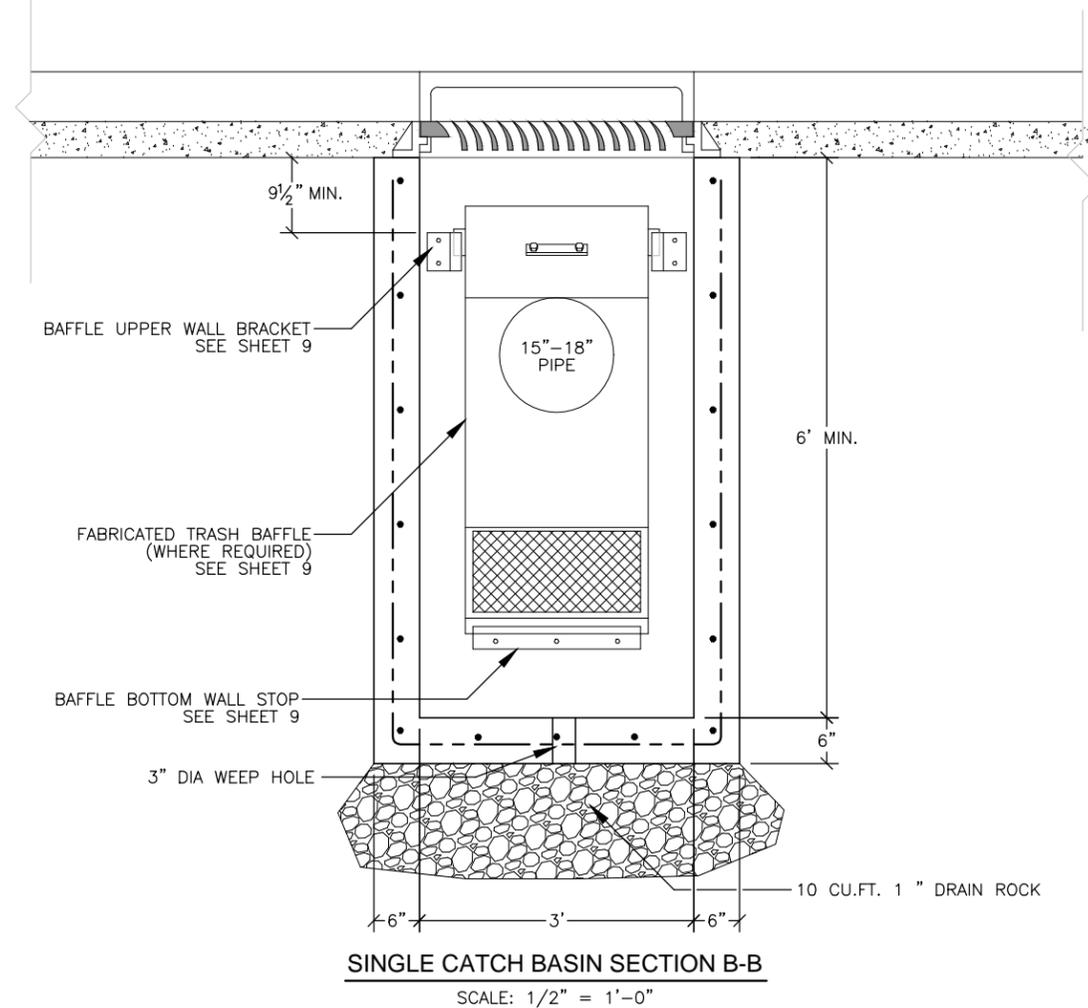
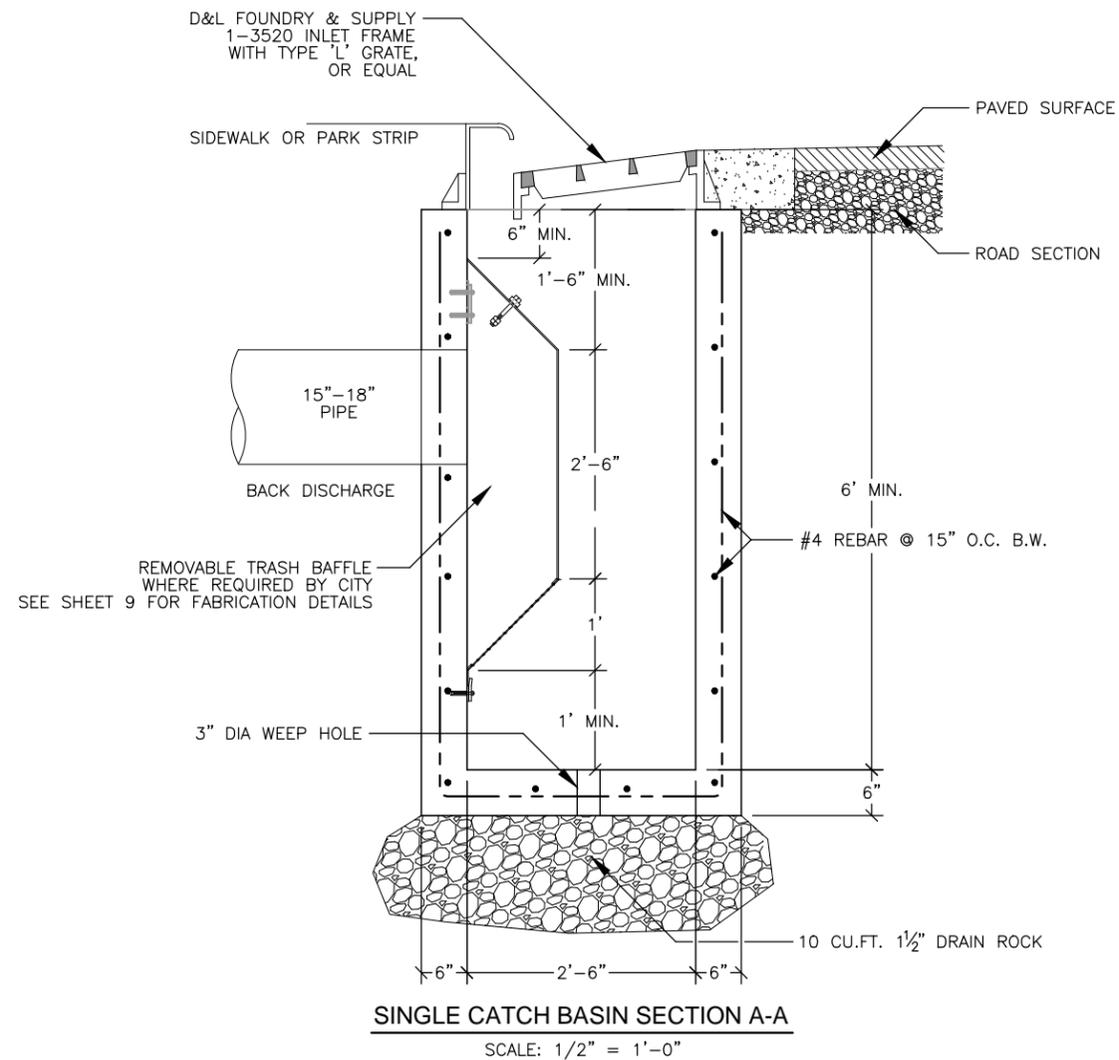
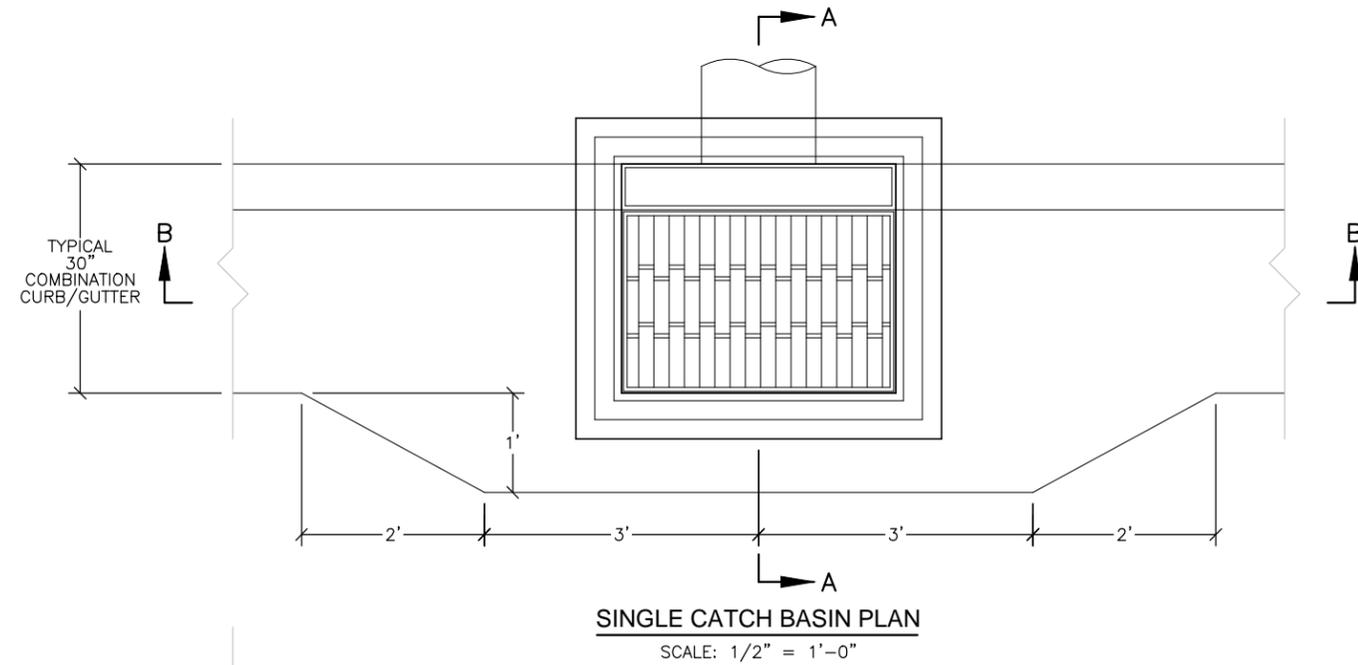
VERNAL CITY
STANDARD DRAWING
TYPICAL ROAD CROSS SECTION

447 EAST MAIN STREET
VERNAL, UTAH 84078

PROJECT NUMBER: 14026V
SHEET: 7 OF 20
SHEET NUMBER: 7

NOTES:

1. REINFORCE CONCRETE W/#4 REBAR @ 15" O.C. B.W.
2. CONCRETE: 6.5 BAGS/CU.YD. (4000 PSI - 28 DAY MIN.)
3. FRAME AND GRATE TO BE D&L FOUNDRY & SUPPLY I-3520 INLET FRAME WITH TYPE "L" GRATE, OR EQUAL
4. PIPE SHALL BE 15" MINIMUM (UNLESS OTHERWISE APPROVED BY CITY), AND SHALL HAVE 24" COVER (MINIMUM) FROM THE TOP OF THE PIPE TO FINISHED GROUND SURFACE.
5. DRAIN ROCK AT BASE OF CATCH BASIN SHALL BE WELL COMPACTED USING A VIBRATING PLATE COMPACTOR.
6. TRASH BAFFLE IS REQUIRED IN ALL CATCH BASINS UNLESS SPECIFICALLY EXEMPTED BY VERNAL CITY.
7. PRECAST CATCH BASIN ALLOWED ONLY WITH PRIOR WRITTEN CONSENT BY VERNAL CITY



NO.	DATE	DESCRIPTION

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DRAWN BY: ESI
DRAWING SCALE: NTS
ISSUE DATE: JUNE 26, 2014

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VERNAL CITY
STANDARD DRAWING
TYPICAL SINGLE CATCH BASIN

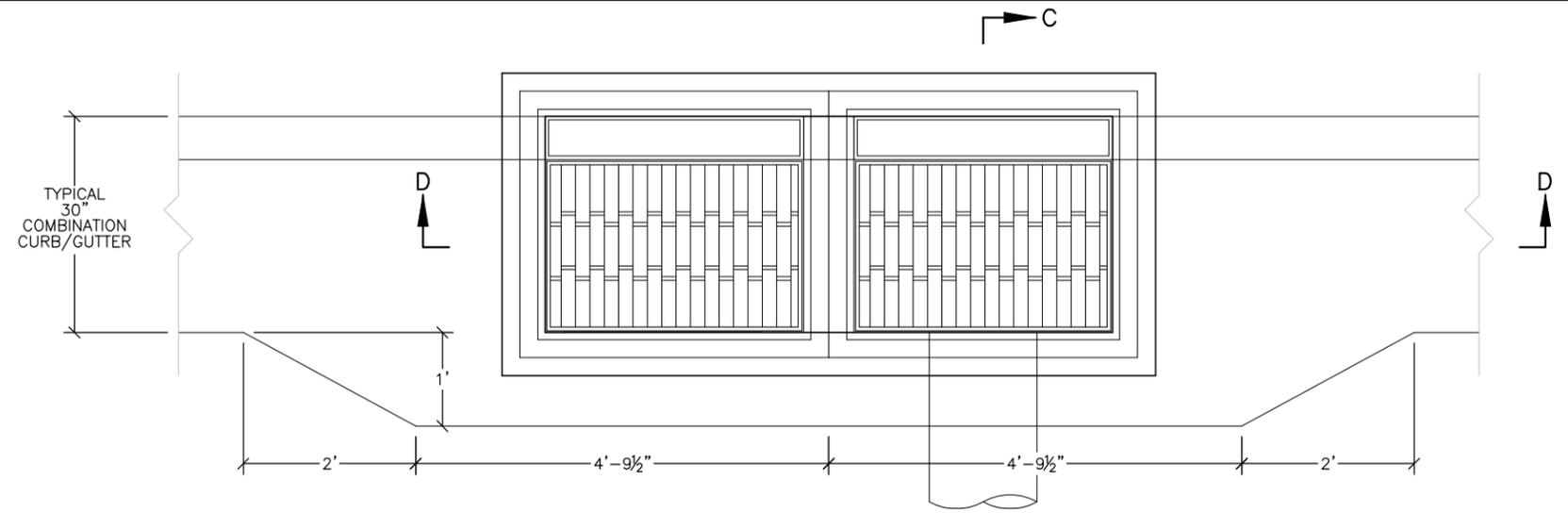
447 EAST MAIN STREET
VERNAL, UTAH 84078

PROJECT NUMBER	14026V
SHEET	8
OF	20
SHEET NUMBER	8

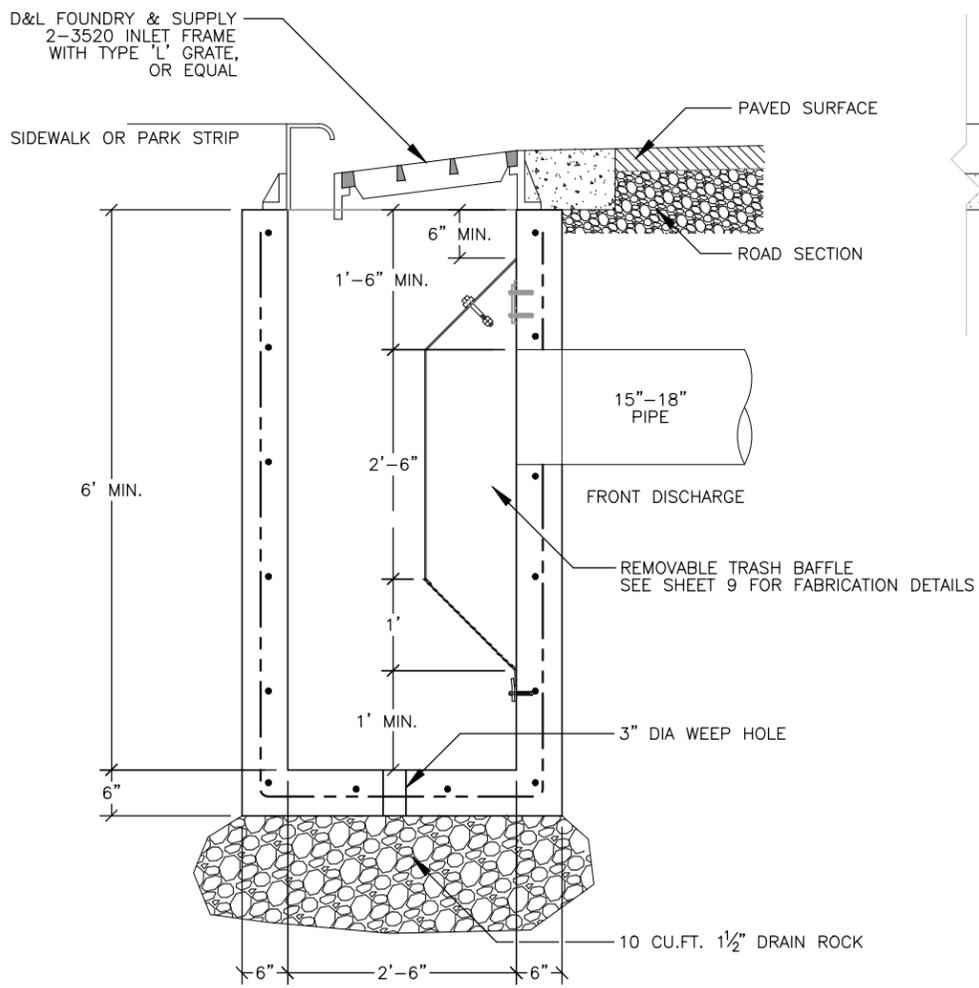
PROJECT NUMBER	14026V
SHEET	8
OF	20
SHEET NUMBER	8

NOTES:

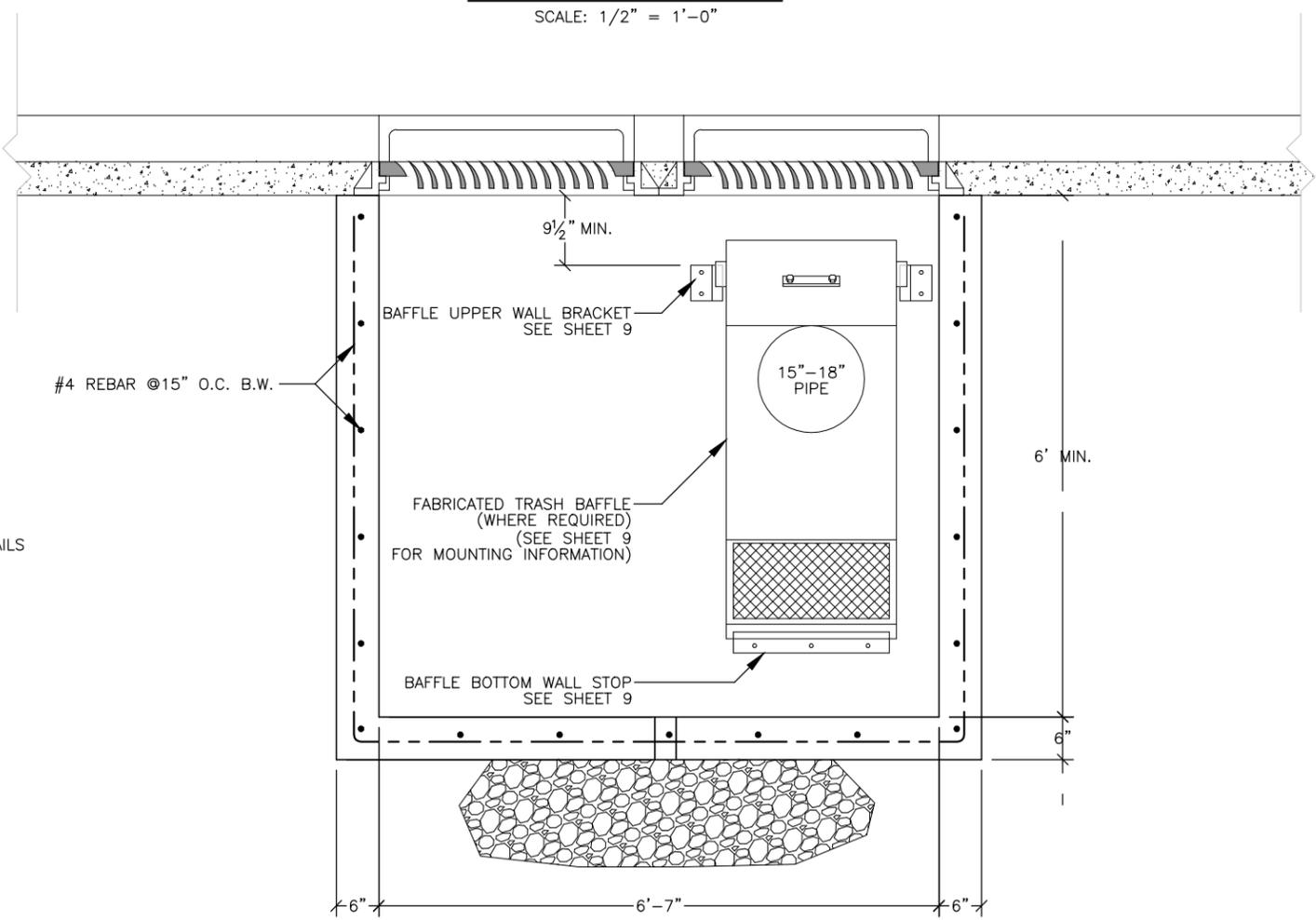
1. REINFORCE CONCRETE W/#4 REBAR @ 15" O.C. B.W.
2. CONCRETE: 6.5 BAGS/CU.YD. (4000 PSI - 28 DAY MIN.)
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4. PIPE SHALL BE 15" MINIMUM (UNLESS OTHERWISE APPROVED BY CITY), AND SHALL HAVE 24" COVER (MINIMUM) FROM THE TOP OF THE PIPE TO FINISHED GROUND SURFACE.
5. DRAIN ROCK AT BASE OF CATCH BASIN SHALL BE WELL COMPACTED USING A VIBRATING PLATE COMPACTOR.
6. TRASH BAFFLE IS REQUIRED IN ALL CATCH BASINS UNLESS SPECIFICALLY EXEMPTED BY VERNAL CITY.
7. PRECAST CATCH BASIN ALLOWED ONLY WITH PRIOR WRITTEN CONSENT BY VERNAL CITY



DOUBLE CATCH BASIN PLAN
SCALE: 1/2" = 1'-0"



DOUBLE CATCH BASIN SECTION C-C
SCALE: 1/2" = 1'-0"



DOUBLE CATCH BASIN SECTION D-D
SCALE: 1/2" = 1'-0"

NO.	REVISION	DATE

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DRAWN BY: **ESI**
DRAWING SCALE: **NTS**
ISSUE DATE: **JUNE 26, 2014**

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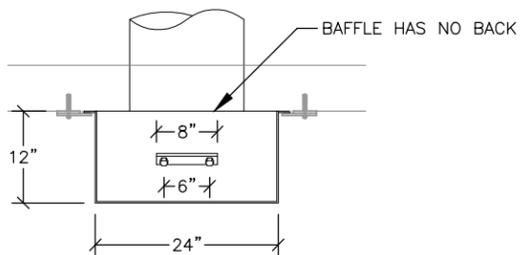
VERNAL CITY
STANDARD DRAWING
TYPICAL DOUBLE CATCH BASIN

447 EAST MAIN STREET
VERNAL, UTAH 84078

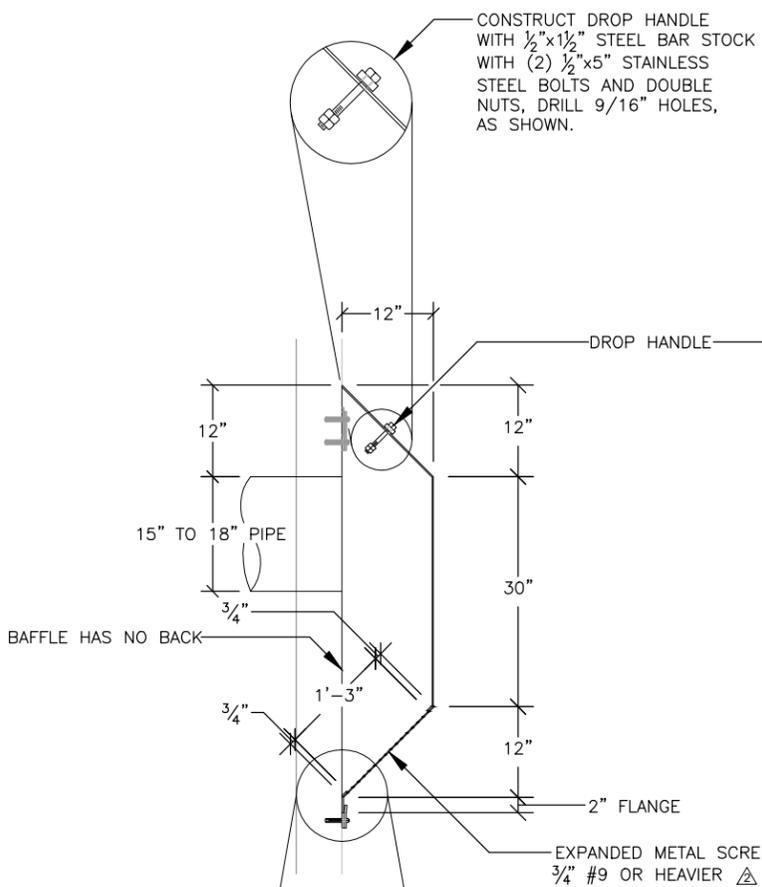
PROJECT NUMBER	14026V	
SHEET	9	OF 20
SHEET NUMBER	9	

CONSTRUCT BAFFLE OF 3/16" CARBON STEEL
SANDBLAST AND EPOXY PAINT AFTER FABRICATION.

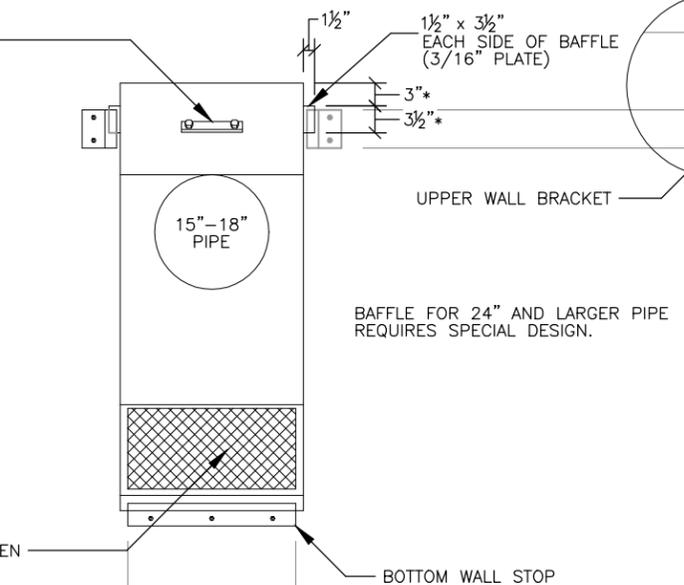
APPROXIMATE WEIGHT: 135 LBS



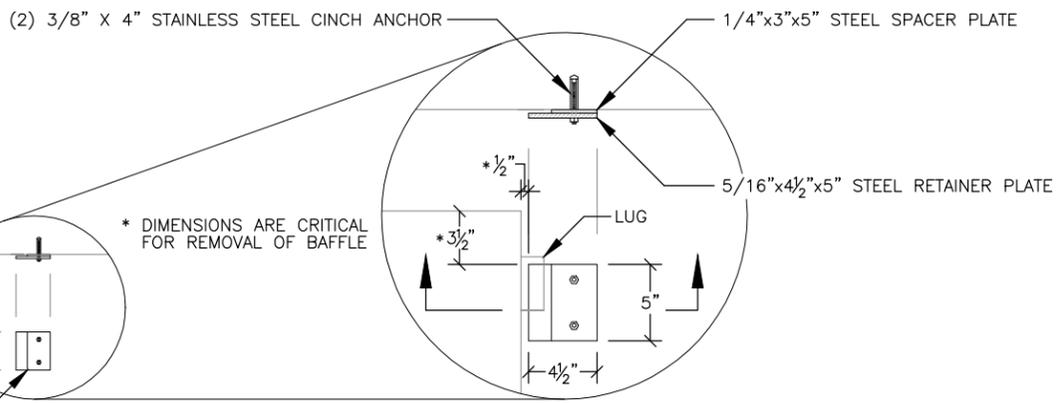
BAFFLE TOP VIEW
SCALE: 1/2" = 1'-0"



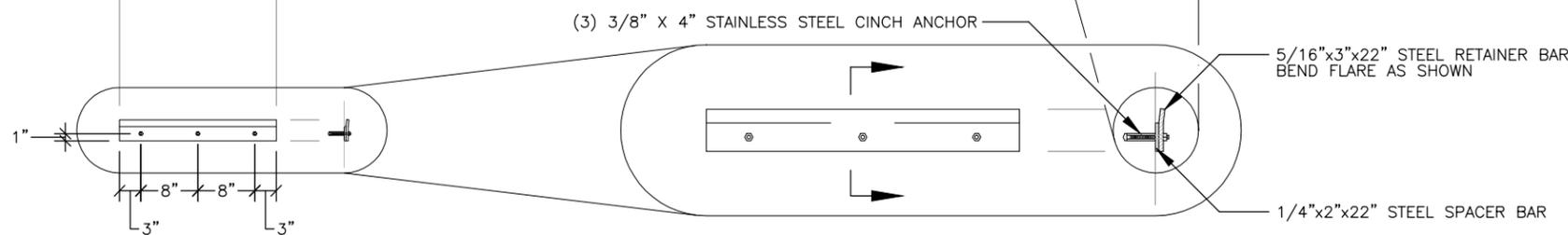
BAFFLE SIDE VIEW
SCALE: 1/2" = 1'-0"



BAFFLE FRONT VIEW
SCALE: 1/2" = 1'-0"



UPPER WALL BRACKET DETAIL
SCALE: 1" = 1'-0"



BOTTOM WALL STOP DETAIL
SCALE: 1" = 1'-0"

2" BAFFLE FLANGE RESTS IN BOTTOM WALL STOP

NO.	REVISION	DATE

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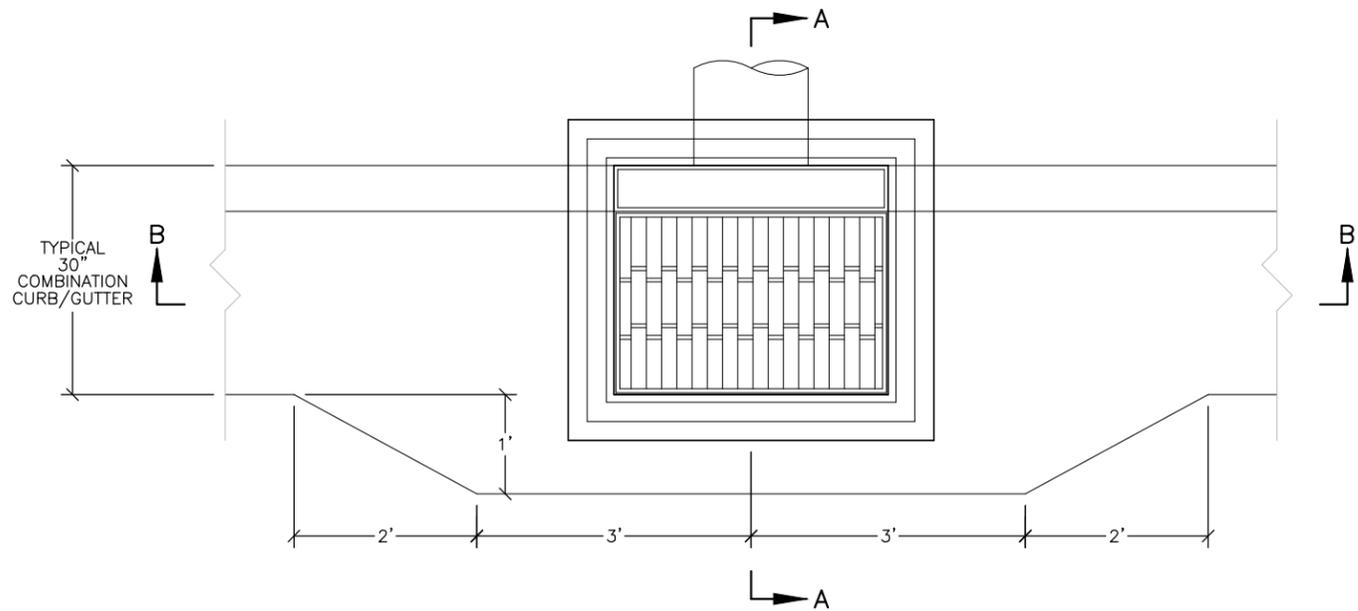
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VERNAL CITY
STANDARD DRAWING
TRASH BAFFLE
447 EAST MAIN STREET
VERNAL, UTAH 84078

PROJECT NUMBER: 14026V
SHEET: 10 OF 20
SHEET NUMBER: 10

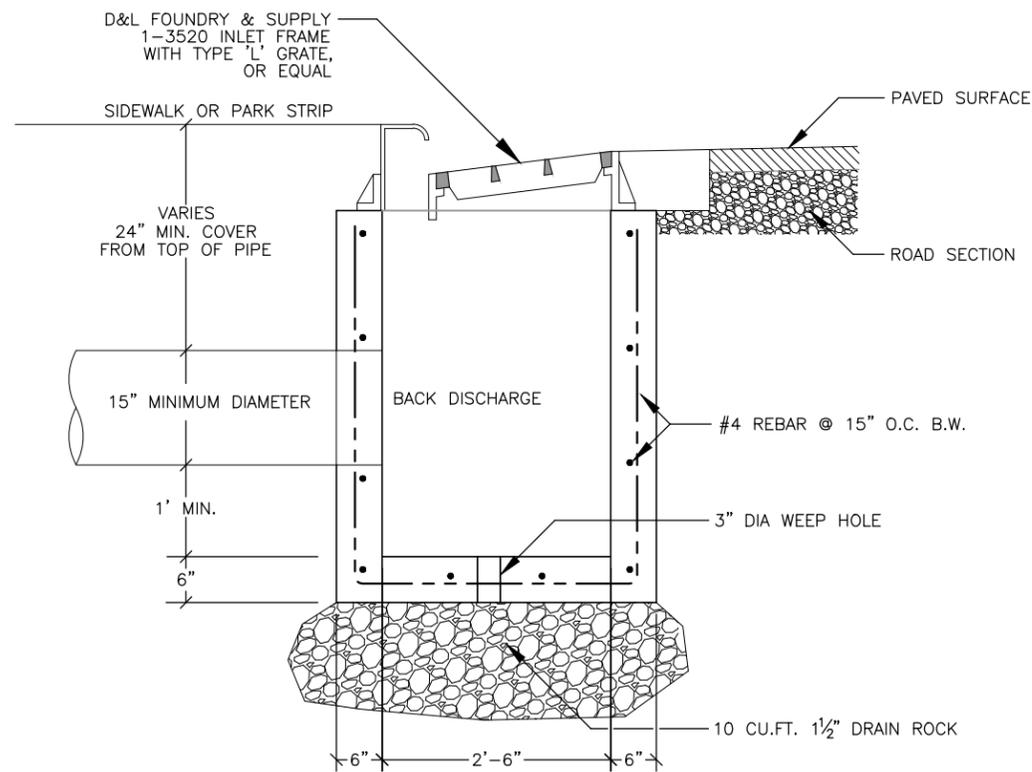
NOTES:

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2. CONCRETE: 6.5 BAGS/CU.YD. (4000 PSI - 28 DAY MIN.)
3. FRAME AND GRATE TO BE D&L FOUNDRY & SUPPLY I-3520 INLET FRAME WITH TYPE "L" GRATE, OR EQUAL
4. PIPE SHALL BE 15" MINIMUM (UNLESS OTHERWISE APPROVED BY CITY), AND SHALL HAVE 24" COVER (MINIMUM) FROM THE TOP OF THE PIPE TO FINISHED GROUND SURFACE.
5. DRAIN ROCK AT BASE OF CATCH BASIN SHALL BE WELL COMPACTED USING A VIBRATING PLATE COMPACTOR.
6. PRECAST CATCH BASIN ALLOWED ONLY WITH PRIOR WRITTEN CONSENT BY VERNAL CITY



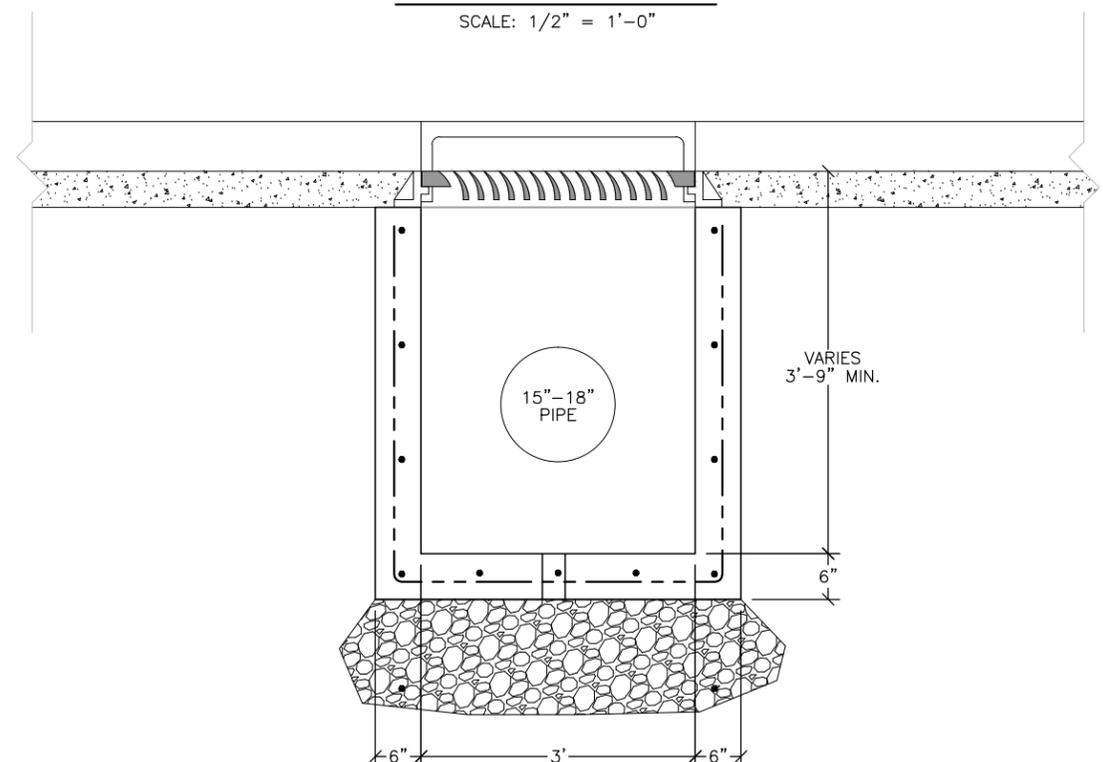
SINGLE CATCH BASIN PLAN

SCALE: 1/2" = 1'-0"



SINGLE CATCH BASIN SECTION A-A

SCALE: 1/2" = 1'-0"



SINGLE CATCH BASIN SECTION B-B

SCALE: 1/2" = 1'-0"

THIS CATCH BASIN SHALL BE USED ONLY WITH SPECIAL WRITTEN APPROVAL BY VERNAL CITY

NO.	DATE	DESCRIPTION

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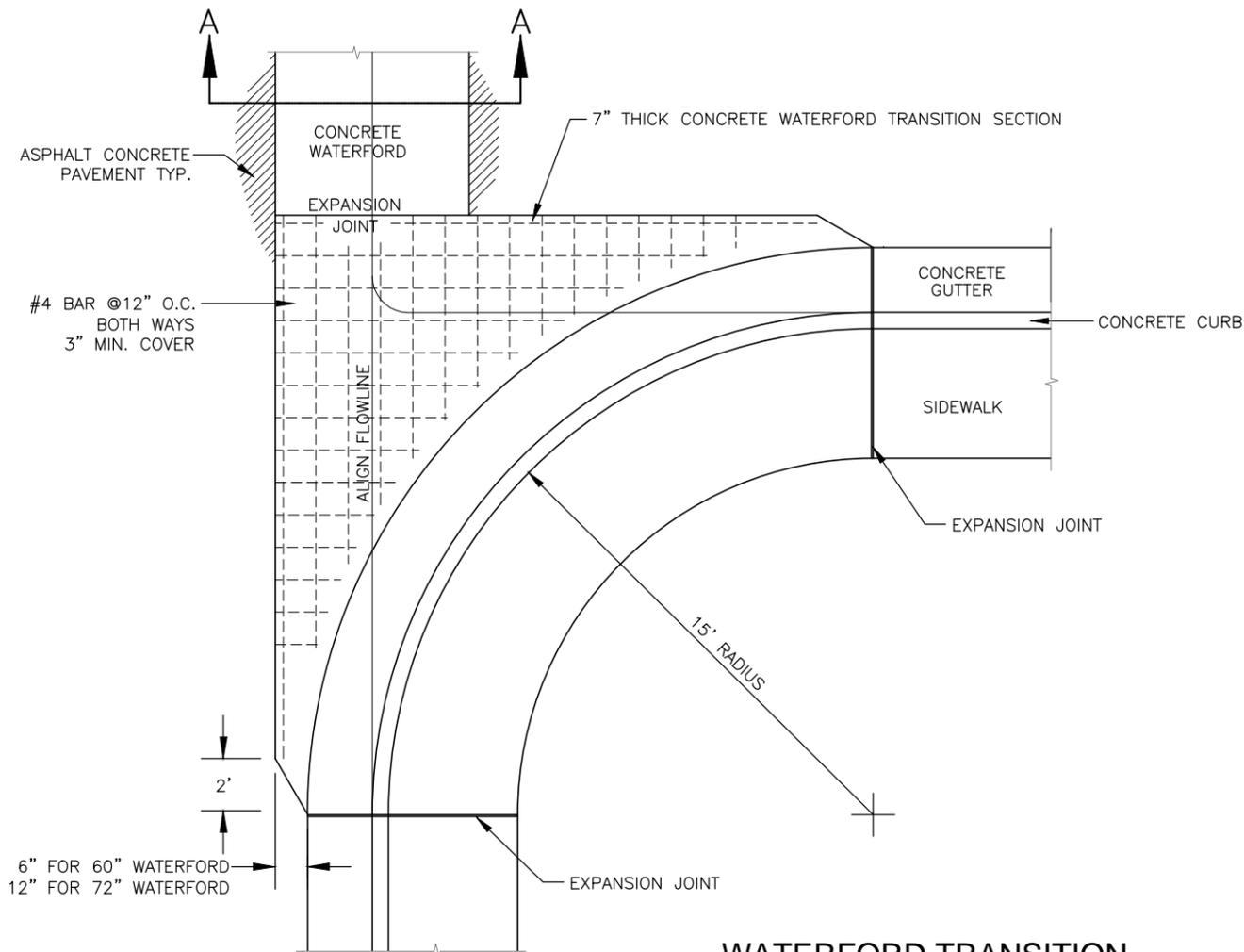
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VERNAL CITY
STANDARD DRAWING
 SINGLE CATCH BASIN - NO BAFFLE

447 EAST MAIN STREET
 VERNAL, UTAH 84078

PROJECT NUMBER: 14026V
 SHEET: 11 OF 20
 SHEET NUMBER: 11



WATERFORD TRANSITION

NOTES

GENERAL REQUIREMENTS

1. STANDARD CONCRETE WATERFORDS ARE 60", WATERFORDS CARRYING IRRIGATION WATER ARE 72"
2. TACK SIDES OF WATERFORD AND THICKEN ASPHALT PAVING TO 8" AT SIDES AS SHOWN
3. CONSTRUCT WHEELCHAIR RAMPS ACCORDING TO ADA REGULATIONS AND STANDARD DRAWINGS

SUBGRADE PREPARATION

1. GRUB ROOTS TO 12" BELOW SUBGRADE
2. CUT/FILL TO LINE AND GRADE (ALLOW FOR 3" BASE MATERIAL)
3. SCARIFY 6" DEEP AND RECOMPACT TO 96% MAX. DRY DENSITY
4. COMPACT FILL TO MINIMUM OF 96% MAX. DRY DENSITY

BASE PREPARATION

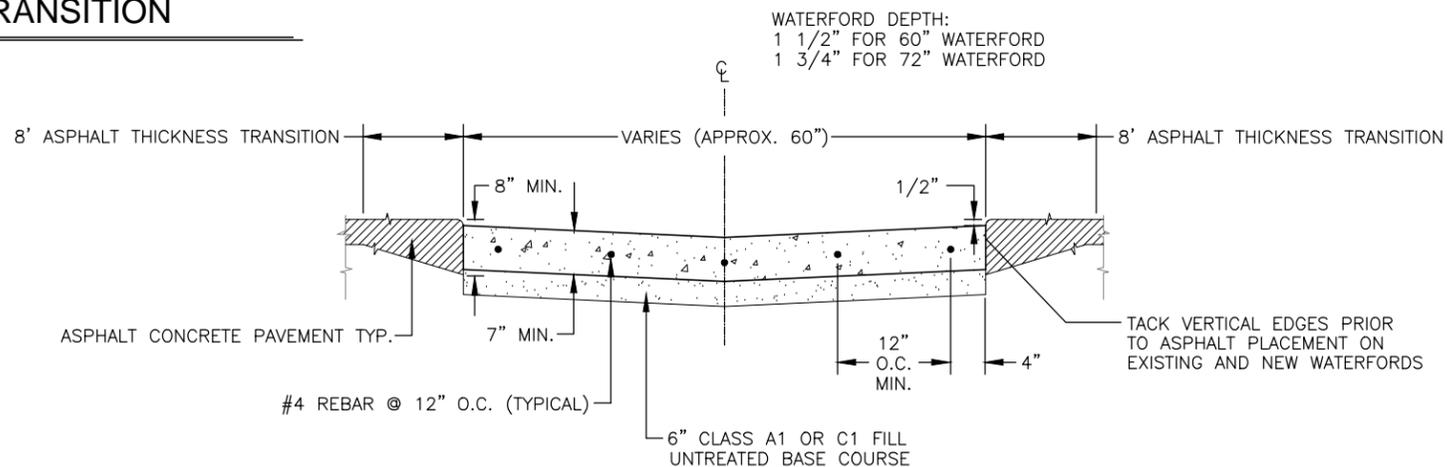
1. 3" MINIMUM DEPTH UNTREATED BASE COURSE OR 3/8" PEA GRAVEL
2. COMPACT UNTREATED BASE COURSE TO MINIMUM OF 96% MAX. DRY DENSITY
3. COMPACT PEA GRAVEL WITH MINIMUM OF 3 PASSES WITH VIBRATING PLATE COMPACTOR
4. FINISH BASE SURFACE AT OR BELOW CONCRETE LINE

WATERFORD CONSTRUCTION REQUIREMENTS

1. MINIMUM SLOPE 0.50%
2. HORIZONTAL ALIGNMENT 1/2-INCH MAX. FROM TRUE LINE AT ANY LOCATION, 1/2-INCH MAX. VARIANCE IN 10- FEET
3. VERTICAL ALIGNMENT 1/2-INCH MAX FROM DESIGN GRADE AT ANY LOCATION, 1/2" MAX. VARIANCE IN 10- FEET, NO PONDING
4. FLOOD WATERFORD AFTER FINAL CURE, REPLACE ANY AREA WHERE PONDING IS FOUND
5. EXPANSION JOINTS EACH END OF WATERFORD, NO CONTRACTION JOINTS REQUIRED
6. REINFORCING BARS DO NOT CROSS EXPANSION JOINTS
7. 1/2-INCH WIDE EXPANSION JOINT FILLER, FULL DEPTH OF CONCRETE, FLUSH WITH SURFACE
8. 1/2-INCH RADIUS CORNERS AT EDGES, AND AT OTHER LOCATIONS EXPOSED TO VIEW

CONCRETE

1. MINIMUM CEMENT CONTENT 6.5 BAGS PER CUBIC YARD
2. DESIGN 28-DAY COMPRESSIVE STRENGTH 4000 PSI, MINIMUM 28-DAY COMPRESSIVE STRENGTH 3500 PSI
3. AIR CONTENT 6% ± 1.0%
4. SLUMP 4 1/2-INCH MAXIMUM
5. TESTING
TOTAL POUR LESS THAN 5 CUBIC YARDS OR LESS - NO TEST REQUIRED
TOTAL POUR 5 CUBIC YARDS OR MORE - 1 TEST PER 50 CUBIC YARDS (OR FRACTION THEREOF)
COMPRESSIVE STRENGTH (3 CYLINDERS PER TEST)
AIR
SLUMP
6. BROOM FINISH PARALLEL TO GUTTER FLOWLINE
7. CURE AND SEAL WITH PRODUCT MEETING ASTM C1315, TYPE 1, CLASS A.



TYPICAL CONCRETE WATERFORD A-A

NOT TO SCALE

NO.	DATE	DESCRIPTION

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DRAWN BY: D. TANNER
DRAWING SCALE: NTS
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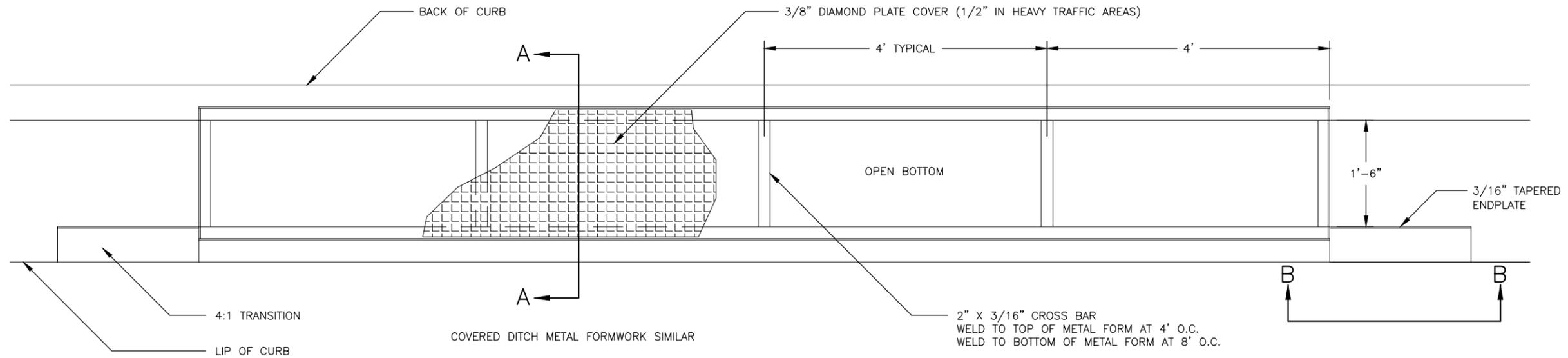
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VERNAL CITY
STANDARD DRAWING
TYPICAL WATERFORD

447 EAST MAIN STREET
VERNAL, UTAH 84078

PROJECT NUMBER	14026V
SHEET	12
OF	20
SHEET NUMBER	12

PROJECT NUMBER	14026V
SHEET	12
OF	20
SHEET NUMBER	12

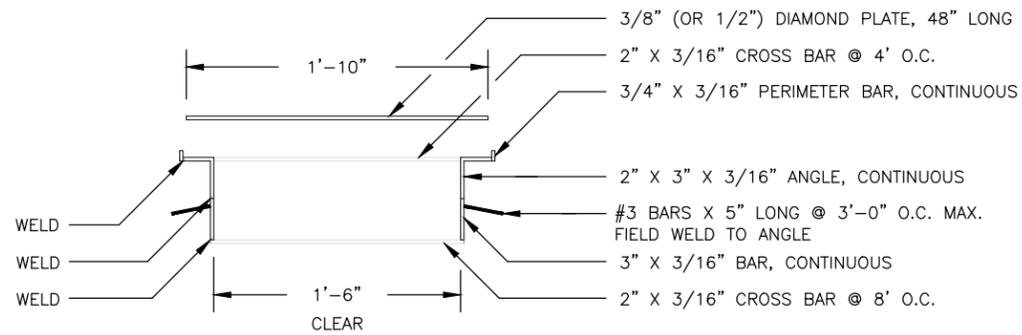


COVERED APPROACH METAL FORMWORK PLAN

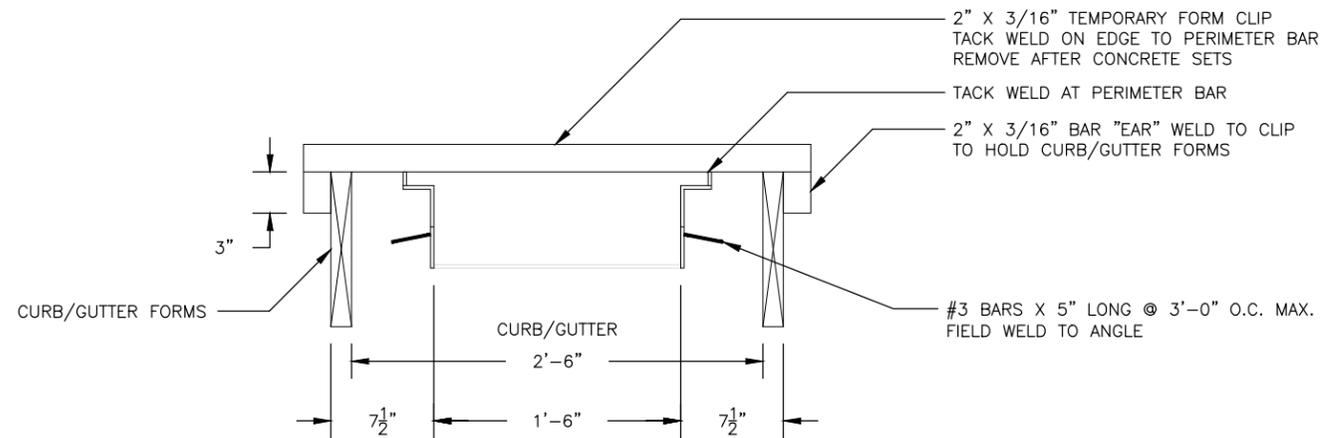
NOT TO SCALE

NOTES:

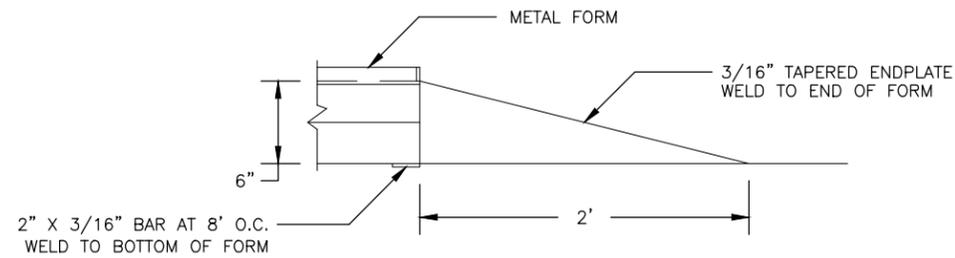
WHEN TRUNCATED DOMES ARE USED FOR ADA PURPOSES WITH A COVERED APPROACH, THE DOMES NEED TO BE CENTERED ON THE COVERED APPROACH 6 INCHES FROM EACH SIDE AND IMMEDIATELY ADJACENT TO THE BACK OF THE COVERED PLATE.



SECTION A-A



TEMPORARY FORM CLIP



ELEVATION B-B

NO.	DATE	DESCRIPTION

0 1 2
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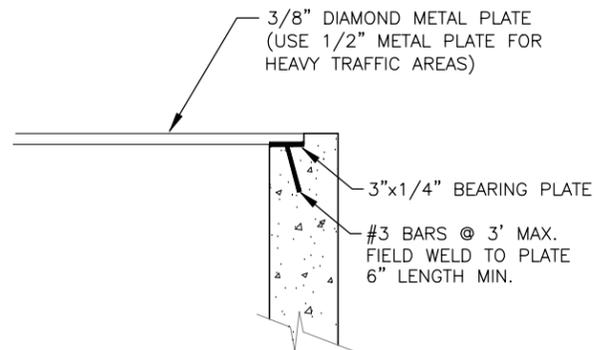
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VERNAL CITY
STANDARD DRAWING
 COVERED APPROACH

447 EAST MAIN STREET
 VERNAL, UTAH 84078

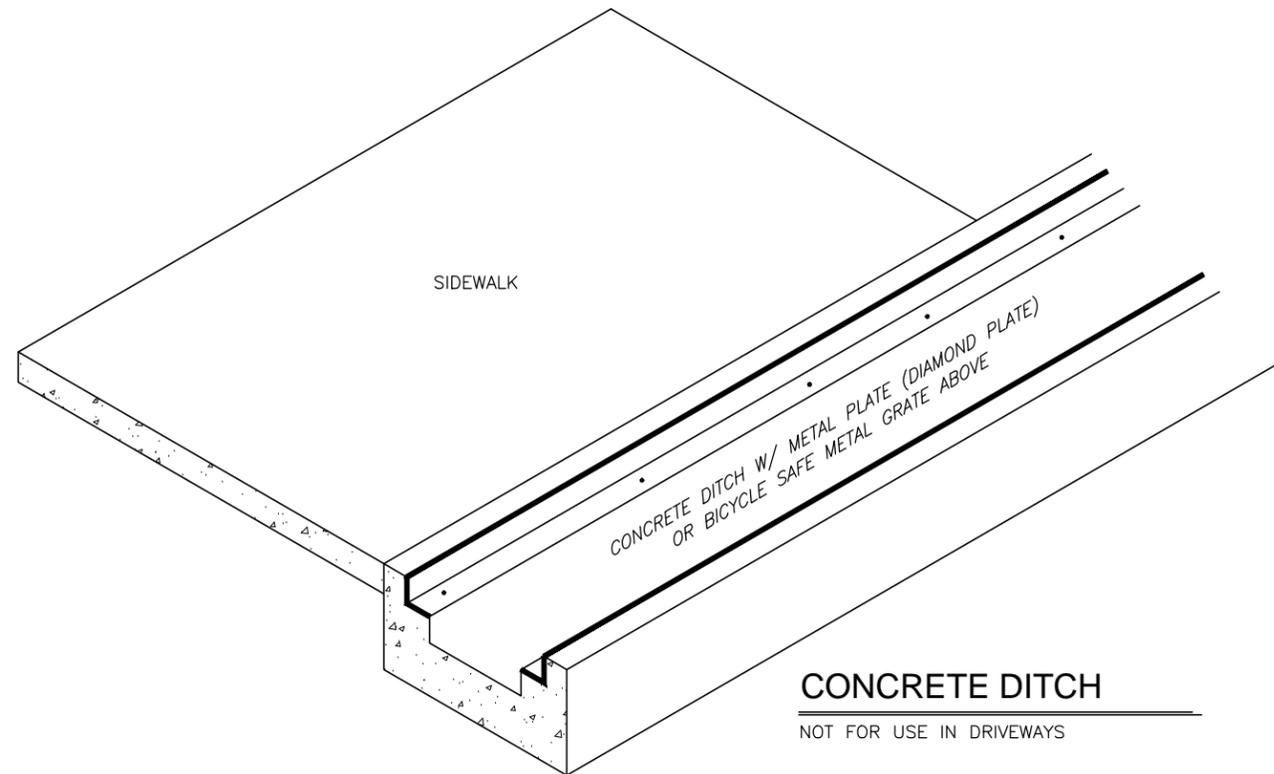
PROJECT NUMBER	14026V
SHEET	13 OF 20
SHEET NUMBER	13

PROJECT NUMBER	14026V
SHEET	13 OF 20
SHEET NUMBER	13



METAL PLATE DETAIL

NOT TO SCALE



CONCRETE DITCH

NOT FOR USE IN DRIVEWAYS

NOTES

GENERAL REQUIREMENTS

1. CONCRETE DRIVEWAYS AND SIDEWALKS SHALL CONFORM TO STANDARD DRAWINGS. COVERED DRIVEWAYS CONFORMING TO DETAILS ON THIS SHEET SHALL BE CONSTRUCTED ONLY UPON APPROVAL OF VERNAL CITY.
2. METAL PLATE AND BICYCLE SAFE METAL GRATES SHALL BE WELDED CONSTRUCTION AND FABRICATED OF MILD STRUCTURAL STEEL MEETING ASTM DESIGNATION A-36 (AASHTO M-163) AND HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM A-123. METAL PLATE SHALL HAVE A MINIMUM THICKNESS OF 3/8" AND SHALL HAVE DIAMOND PLATE PATTERN.
3. CONSTRUCT CURVES WITH 2' OR 4' CHORD SEGMENTS

SUBGRADE PREPARATION

1. GRUB ROOTS TO 12" BELOW SUBGRADE
2. CUT/FILL TO LINE AND GRADE (ALLOW FOR 3" BASE MATERIAL)
3. SCARIFY 6" DEEP AND RECOMPACT TO 96% MAX. DRY DENSITY
4. COMPACT FILL TO MINIMUM OF 96% MAX. DRY DENSITY

BASE PREPARATION

1. 4" MINIMUM DEPTH CLASS UNTREATED BASE COURSE OR 3/8" PEA GRAVEL
2. COMPACT UNTREATED BASE COURSE TO MINIMUM OF 96% MAX. DRY DENSITY
3. COMPACT PEA GRAVEL WITH MINIMUM OF 3 PASSES WITH VIBRATING PLATE COMPACTOR
4. FINISH BASE SURFACE AT OR BELOW CONCRETE LINE

COVERED DITCH REQUIREMENTS

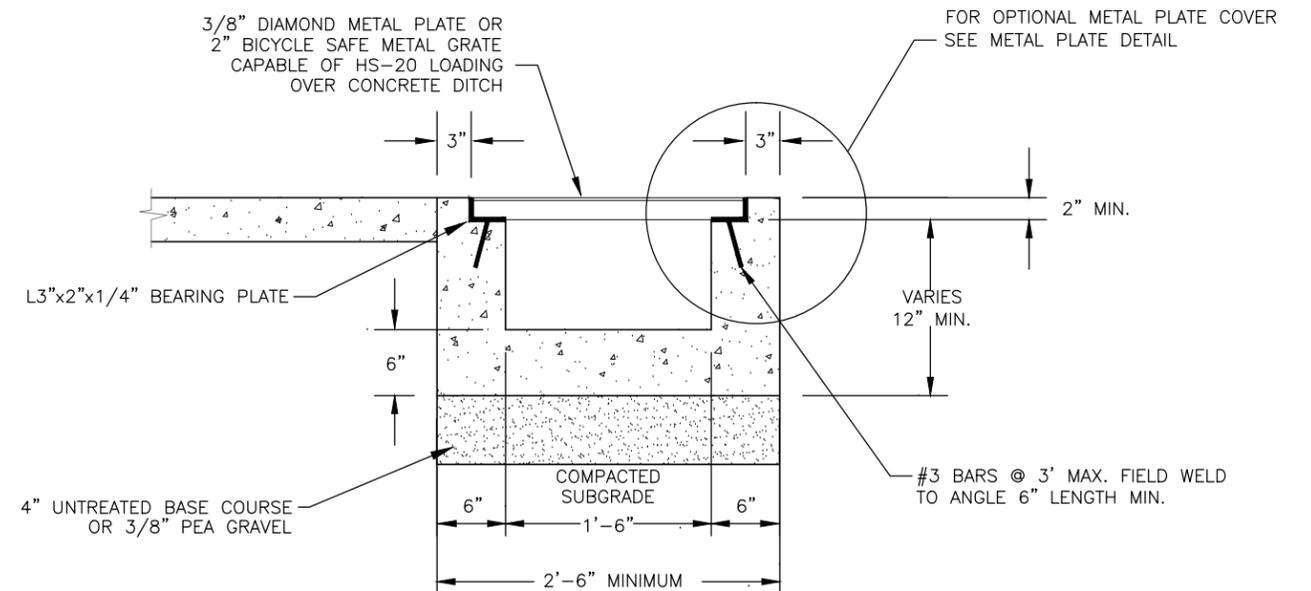
1. MINIMUM SLOPE 0.50%
2. HORIZONTAL ALIGNMENT 1-INCH MAX. FROM TRUE LINE AT ANY LOCATION, 1/2-INCH MAX. VARIANCE IN 10- FEET
3. VERTICAL ALIGNMENT 1/2-INCH MAX FROM DESIGN GRADE AT ANY LOCATION, 1/2" MAX. VARIANCE IN 10- FEET, NO PONDING
4. FLOOD DITCH AFTER FINAL CURE, REPLACE ANY AREA WHERE PONDING IS FOUND
5. EXPANSION JOINTS AT 30'-0" O.C. MAXIMUM AND AT POINTS OF CURVATURE FOR STREET CORNERS
6. REINFORCING BARS DO NOT CROSS EXPANSION JOINTS
7. 1/2-INCH WIDE EXPANSION JOINT FILLER, FULL DEPTH OF CONCRETE, FLUSH WITH SURFACE
8. 1/2-INCH RADIUS CORNERS AT EDGES, AND AT OTHER LOCATIONS EXPOSED TO VIEW

CONCRETE

1. MINIMUM CEMENT CONTENT 6.5 BAGS PER CUBIC YARD
2. DESIGN 28-DAY COMPRESSIVE STRENGTH 4000 PSI, MINIMUM 28-DAY COMPRESSIVE STRENGTH 3500 PSI
3. AIR CONTENT 6% ± 1.0%
4. SLUMP 4 1/2-INCH MAXIMUM

TESTING

1. TOTAL POUR LESS THAN 5 CUBIC YARDS OR LESS - NO TEST REQUIRED
2. TOTAL POUR 5 CUBIC YARDS OR MORE - 1 TEST PER 50 CUBIC YARDS (OR FRACTION THEREOF) COMPRESSIVE STRENGTH (3 CYLINDERS PER TEST)
AIR
SLUMP
3. BROOM FINISH PARALLEL TO GUTTER FLOWLINE
4. CURE AND SEAL WITH PRODUCT MEETING ASTM C-1315, TYPE 1, CLASS A.



SECTION VIEW

BICYCLE SAFE METAL GRATE SITUATION

NO.	DESCRIPTION	DATE

IF THE ABOVE SCALE BAR DOES NOT MEASURE 1 INCH IN LENGTH, DO NOT USE THIS DRAWING FOR SCALING PURPOSES. DIMENSIONS AND MEASUREMENTS SPECIFIED IN THE DRAWING TAKE PRECEDENCE TO SCALED MEASUREMENTS.
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DRAWING SCALE: NTS
ISSUE DATE: JUNE 26, 2014

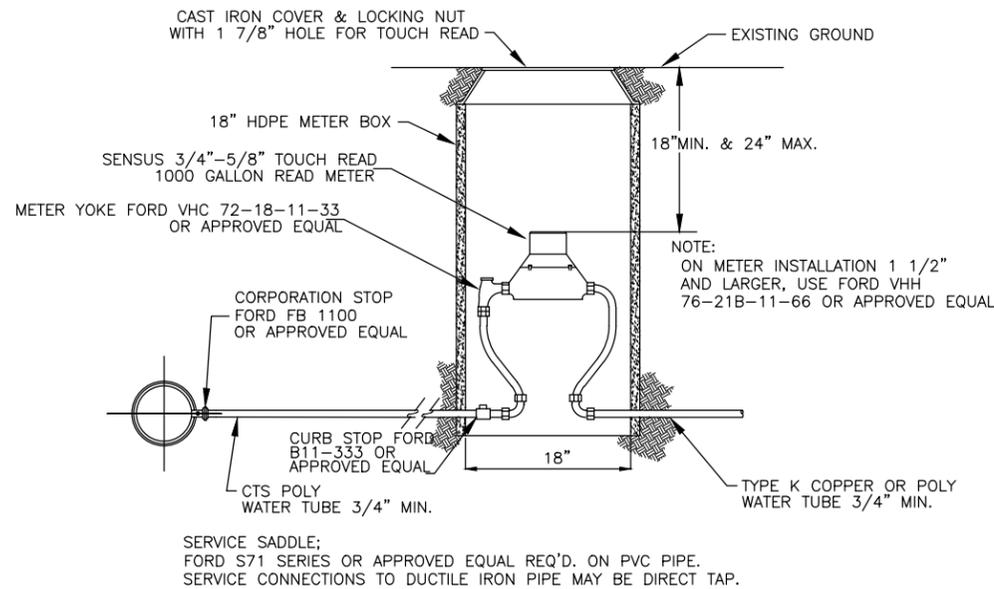
CALDWELL RICHARDS SORENSEN  **ANSWERS TO INFRASTRUCTURE**

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VERNAL, UTAH 84078
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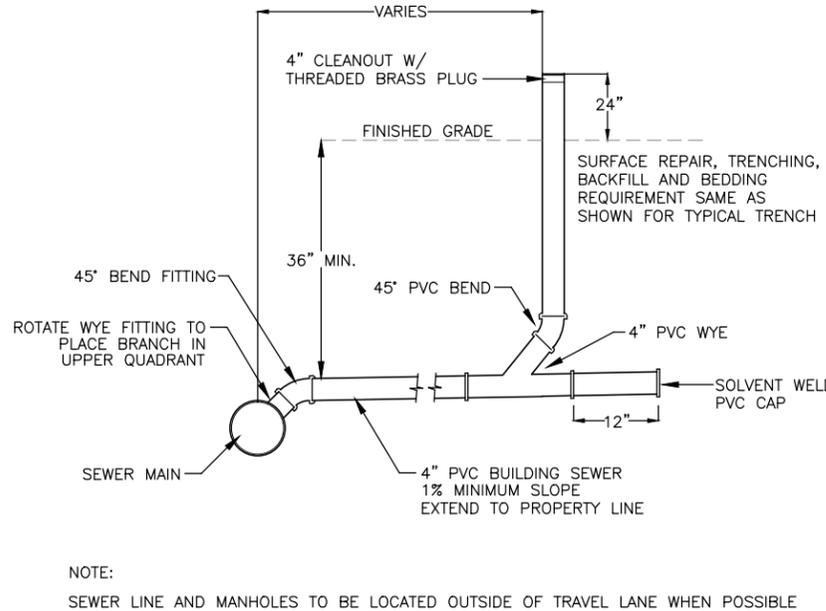
VERNAL CITY
STANDARD DRAWING
CONCRETE DITCH DETAILS

447 EAST MAIN STREET
VERNAL, UTAH 84078

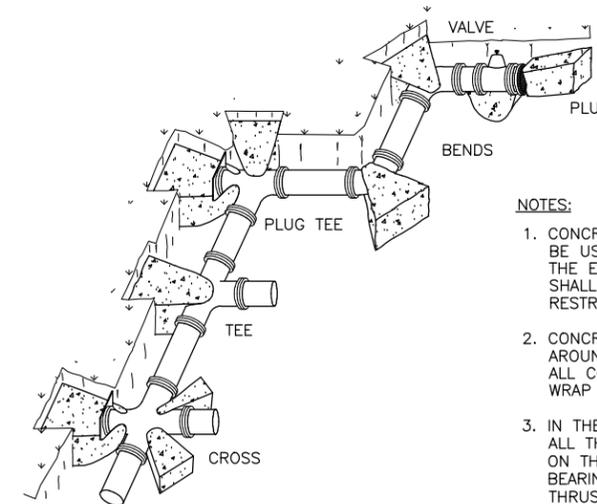
PROJECT NUMBER	14026V
SHEET	14 OF 20
SHEET NUMBER	14



TYPICAL WATER SERVICE
NOT TO SCALE

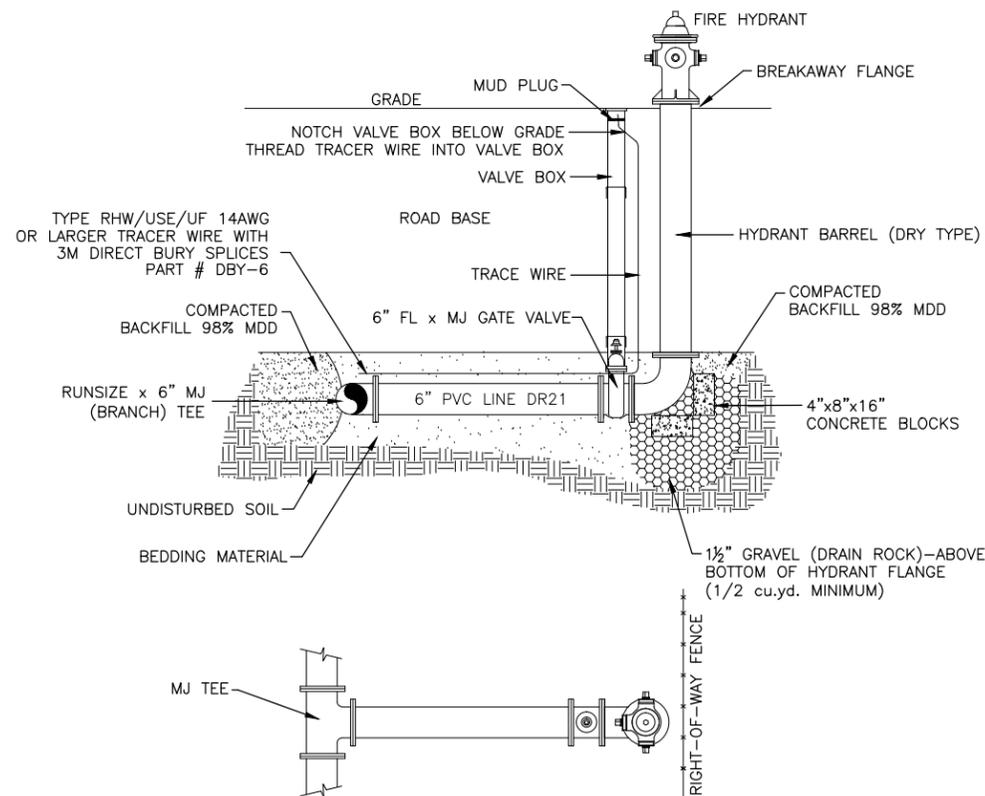


TYPICAL SEWER SERVICE
NOT TO SCALE

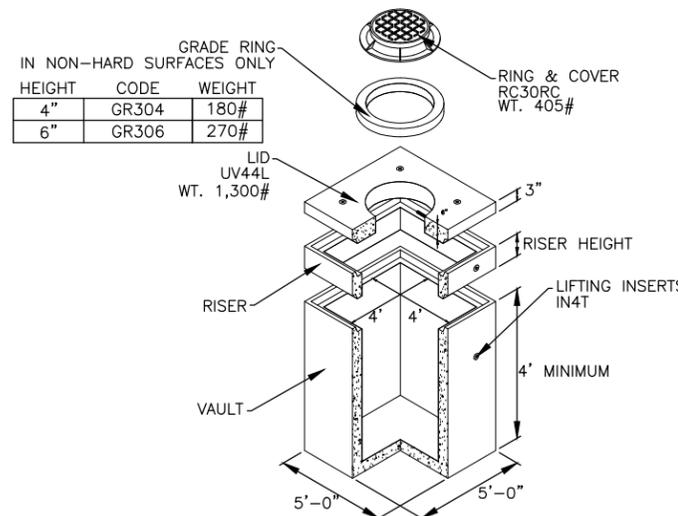


- NOTES:**
1. CONCRETE THRUST BLOCKS SHALL BE USED ONLY WHERE DIRECTED BY THE ENGINEER. THRUST RESTRAINTS SHALL NORMALLY BE RESISTED BY RESTRAINING MECHANICAL JOINT FITTINGS.
 2. CONCRETE SHALL NOT BE PLACED AROUND JOINTS AND BOLTS. COVER ALL CONTACT AREAS WITH A POLY WRAP PRIOR TO CONCRETE PLACEMENT
 3. IN THE ABSENCE OF A SOILS REPORT, ALL THRUST BLOCKS SHALL BE SIZED ON THE BASIS OF A MAXIMUM LATERAL BEARING VALUE OF 800 psf AND A THRUST RESULTING FROM 150% OF THE WATER LINE STATIC PRESSURE.
 4. WHERE DIRECTED BY OWNER OR ENGINEER THRUST BLOCKS SHALL BE CONSTRUCTED AT ALL BENDS OF 22 1/2 DEGREES AND GREATER AND BEHIND ALL TEES, FIRE HYDRANTS, AND PLUGS. THEY SHALL BE CONSTRUCTED OF 2000 psi CONCRETE OR BETTER.
 5. ALL TIMBER FOR BLOCKING IS TO BE REDWOOD OR CEDAR.

TYPICAL THRUST BLOCK DETAIL
NOT TO SCALE



TYPICAL FIRE HYDRANT DETAIL
NOT TO SCALE



HEIGHT	CODE	WEIGHT
4"	GR304	180#
6"	GR306	270#

RISER		
HEIGHT	CODE	WEIGHT
1'	UV441R	1,350#
2'	UV442R	2,700#
3'	UV443R	4,050#
4'	UV444R	5,400#
5'	UV445R	6,750#
6'	UV446R	8,100#

VAULT		
HEIGHT	CODE	WEIGHT
3'	UV443	5,925#
4'	UV444	7,275#
5'	UV445	8,625#
6'	UV446	9,975#

- NOTES:**
1. VAULTS ARE DESIGNED TO MEET ASTM C858 WITH AASHTO HS-20 LOADING.
 2. OPENINGS MAY BE SIZED AND LOCATED AS REQUIRED.
 3. OPTIONAL HARDWARE MAY BE CAST IN AS REQUIRED.
 4. CHECK HARDWARE SECTION FOR OPTIONAL ACCESSORIES.
 5. IF INSTALLING UNDER HARD SURFACE, REPLACE GRADE RINGS WITH WHIRLYGIG SYSTEM OR EQUIVALENT.

4' X 4' TYPICAL UTILITY VAULT
NOT TO SCALE

TYPICAL NOTES

1. ALL NEWLY INSTALLED WATER PIPE SHALL PASS A CHLORINE RESIDUAL TEST, IN ACCORDANCE WITH AWWA C651 AS LATEST REVISED
2. ALL WATER PIPE SHALL BE CLASS 200 PVC, CONFORM TO AWWA STANDARDS, AND BEAR THE "NSF-pw" LOGO
3. ALL NEW VALVES SHALL BE RESILIENT-SEATED GATE VALVES, CONFORM TO AWWA C509-01 OR C515 STANDARDS, AND BE EPOXY COATED
4. ALL VALVES, ELBOWS, TEES, CROSSES, OR ANY OTHER FITTING AS DIRECTED BY VERNAL CITY, SHALL HAVE RESTRAINING MECHANICAL JOINTS
5. ALL CAST OR DUCTILE IRON FITTINGS AND VALVES SHALL HAVE A POLYETHYLENE WRAP ENCASMENT IN ACCORDANCE WITH AWWA C-105
6. TRENCH, PIPE INSTALLATION, AND THRUST BLOCKS SHALL BE IN ACCORDANCE WITH TYPICAL DETAILS
7. WATER PIPE SHALL BE INSTALLED A MINIMUM 10' HORIZONTALLY AND 18" VERTICALLY FROM ALL SEWER LINES
8. ALL SEWER SERVICE LATERALS SHALL HAVE A MINIMUM OF 36" OF COVER OR AS DIRECTED BY VERNAL CITY
9. ALL WATER SERVICE LATERALS SHALL HAVE A MINIMUM OF 5' OF COVER OR AS DIRECTED BY VERNAL CITY
10. TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL OR AS OTHERWISE REQUIRED BY FEDERAL, STATE, OR LOCAL AUTHORITIES
11. CONTRACTOR SHALL OBTAIN ALL FEDERAL, STATE, AND LOCAL PERMITS
12. ALL NEW VALVES SHALL HAVE MUD PLUGS INSTALLED IN THE VALVE BOX IMMEDIATELY UNDER THE LID
13. ALL NUTS AND BOLTS FOR WATER FITTINGS BELOW GROUND TO BE STAINLESS STEEL

NO.	DATE	DESCRIPTION

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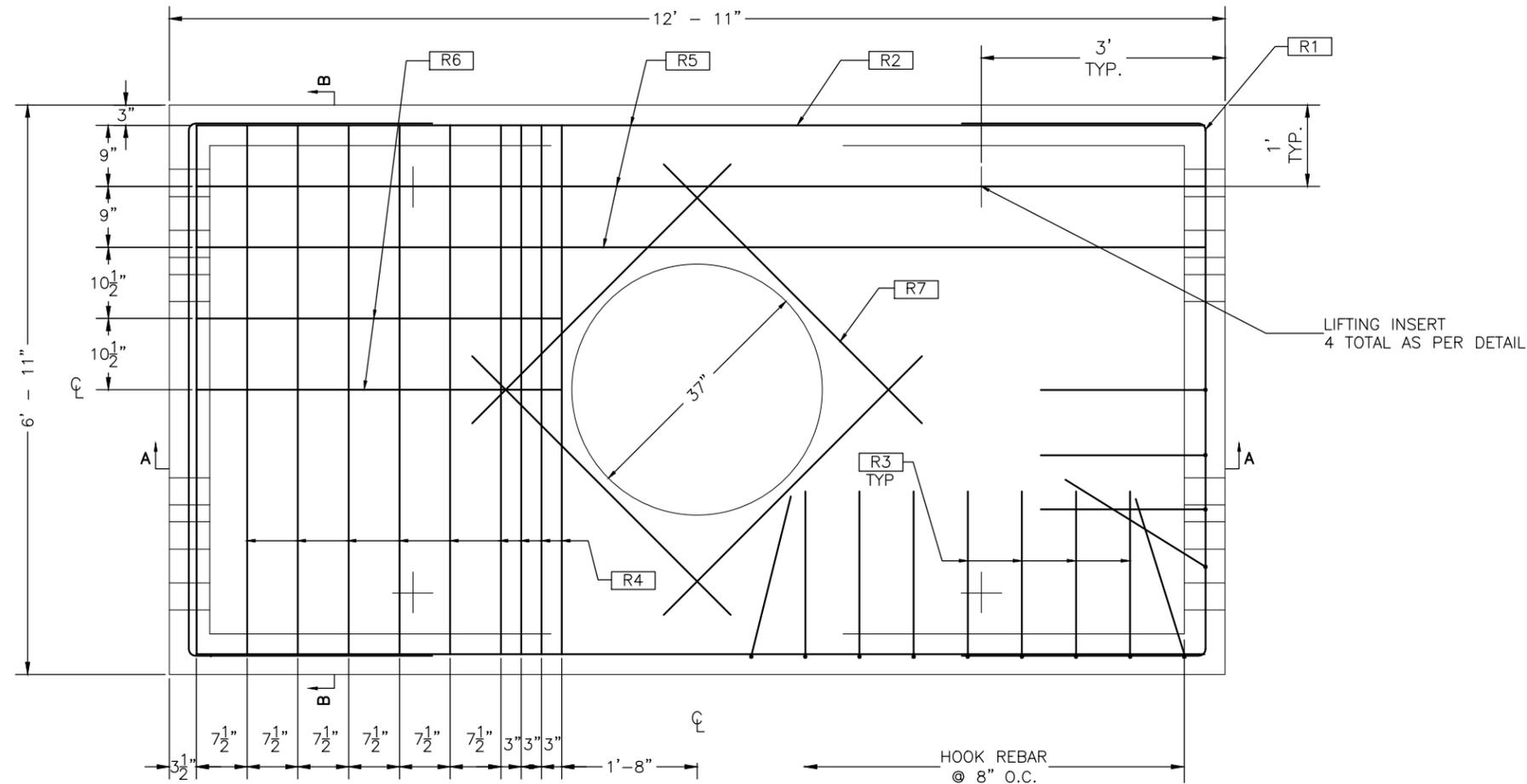
PRINCIPAL: D. ANDERSON
PROJECT MANAGER: K. DESPAIN
CHECKED BY: K. DESPAIN
DRAWN BY: ESI
DRAWING SCALE: NTS
ISSUE DATE: JUNE 26, 2014

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ANSWERS TO INFRASTRUCTURE

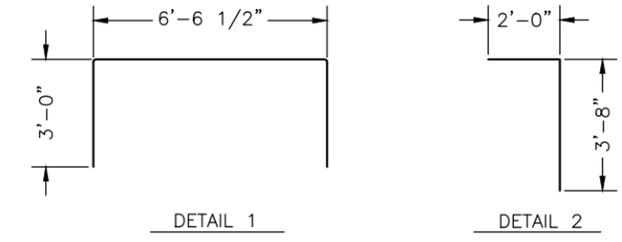
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VERNAL CITY
STANDARD DRAWING
TYPICAL UTILITY DETAILS

PROJECT NUMBER: 14026V
SHEET: 15 OF 20
SHEET NUMBER: 15

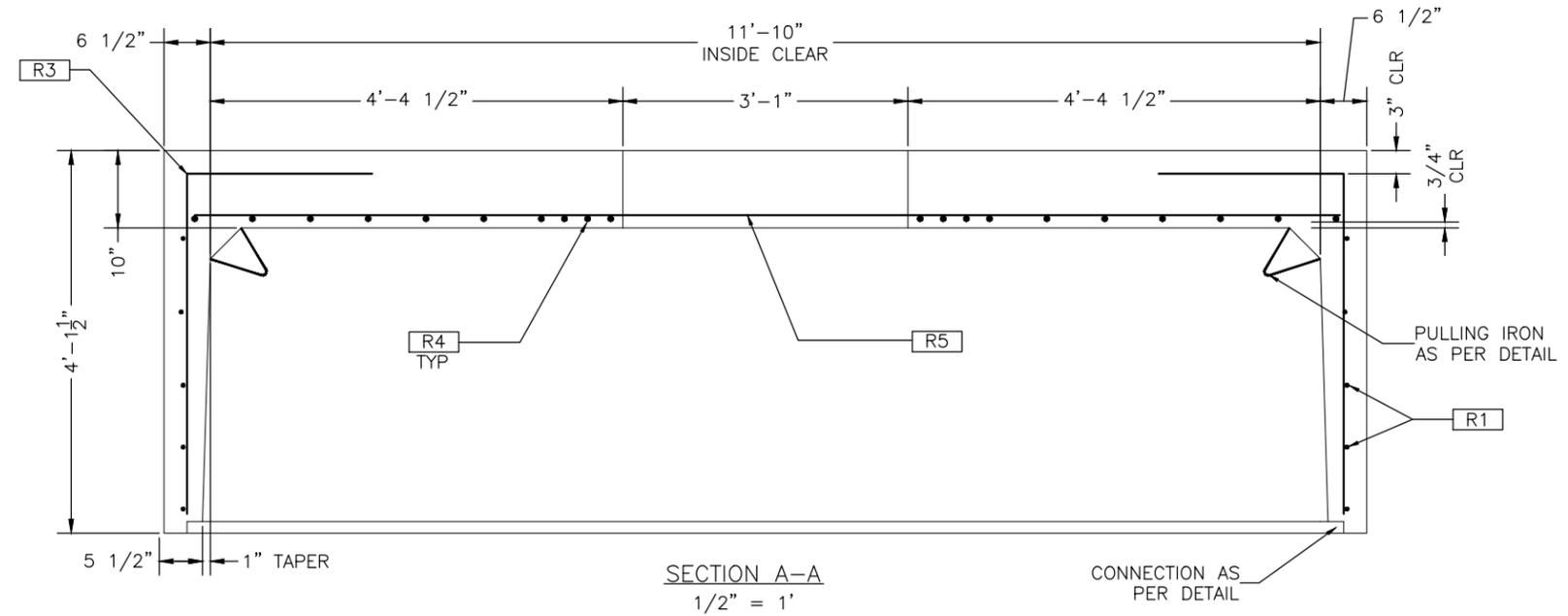


NOTE:
 ALL INSERTS, HOLES, AND DETAILS
 ARE PER STANDARD MOUNTAIN BELL
 MANHOLE ASSEMBLIES
 $f'_c = 3,500 \text{ PSI}$
 $f_y = 60 \text{ KSI}$

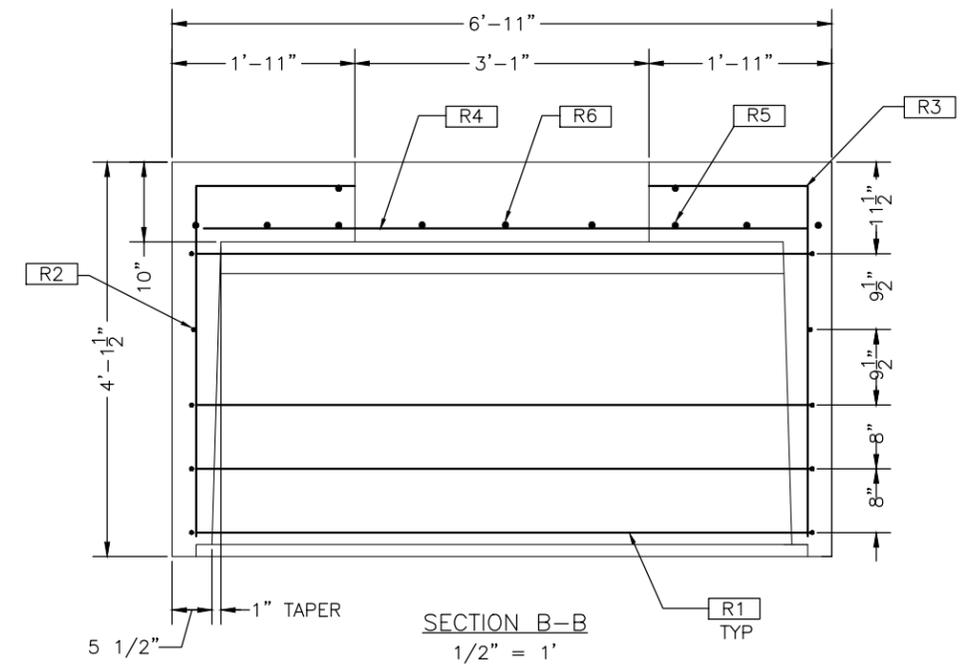


REFL	DESCRIPTION	QTY	SIZE
R1	#4 BAR GR 60	8	DETAIL 1
R2	#4 BAR GR 60	10	STR X 11'
R3	#4 BAR GR 60	50	DETAIL 2
R4	#6 BAR GR 60	20	STR X 6'-6"
R5	#4 BAR GR 60	6	STR X 12'-6"
R6	#4 BAR GR 60	6	STR X 4'-6"
R7	#6 BAR GR 60	4	STR X 4'-6"

PLAN VIEW
 ALL REINFORCING SYMMETRICAL ABOUT CL 'S
 $1/2" = 1'$



SECTION A-A
 $1/2" = 1'$



SECTION B-B
 $1/2" = 1'$

NO.	DESCRIPTION	DATE

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 ISSUE DATE: JUNE 26, 2014

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VERNAL CITY
 STANDARD DRAWING
 UTILITY VAULT STRUCTURE

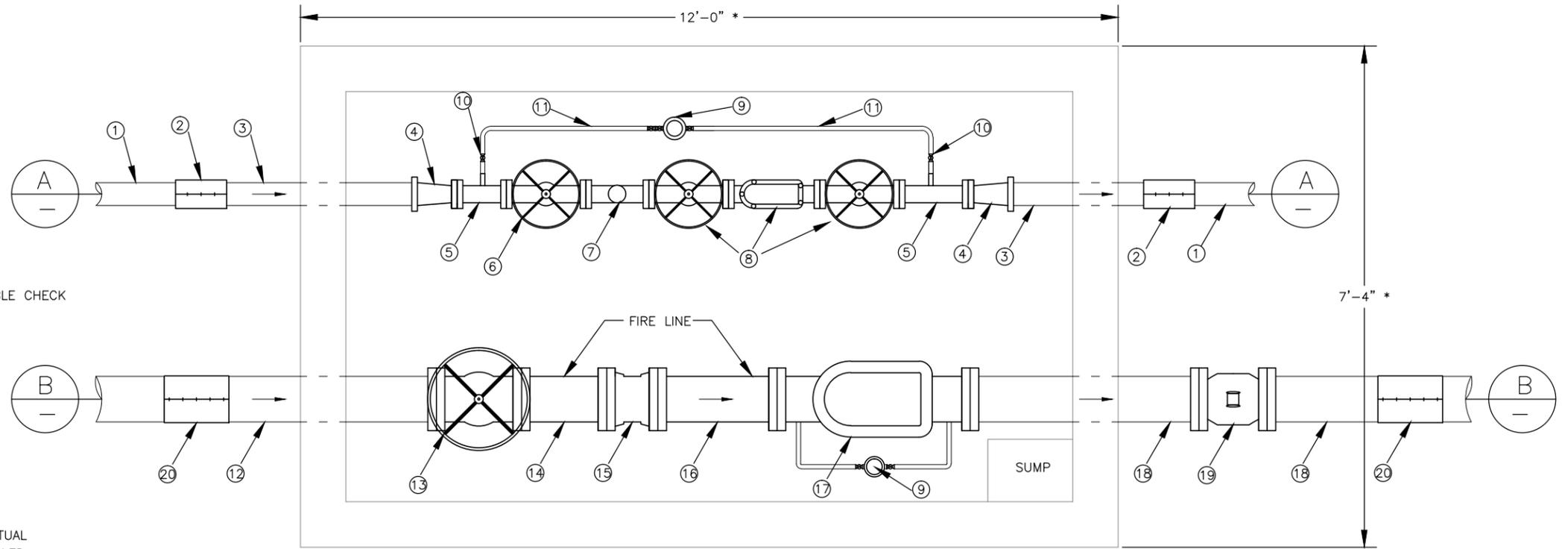
447 EAST MAIN STREET
 VERNAL, UTAH 84078

PROJECT NUMBER 14026V	
SHEET 17	OF 20
SHEET NUMBER 17	

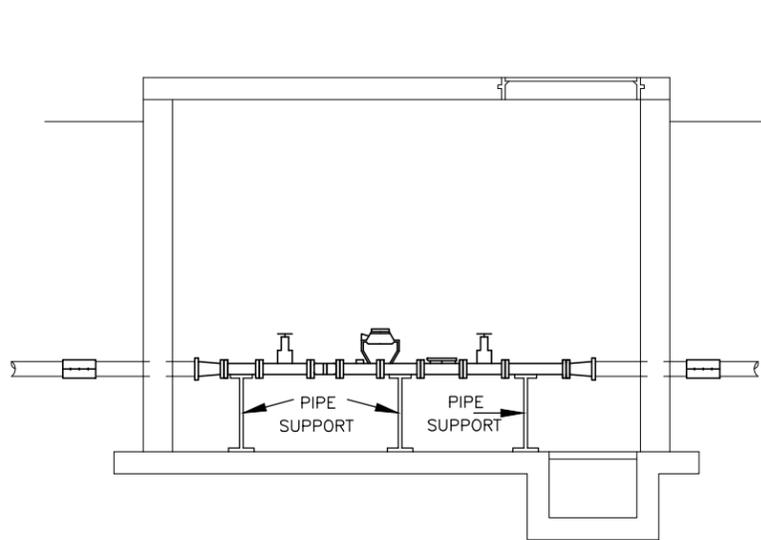
- ① PVC
- ② PVC/DI TRANSITION COUPLER
- ③ PE X PE DI
- ④ MJ REDUCER
- ⑤ PE X FL PIECE W/ 3/4" * TAP
- ⑥ FL X FL RESILIENT SEAT GATE VALVE
- ⑦ FL X FL SENSUS METER W/ STRAINER AND TEST PORT
- ⑧ FL X FL BACKFLOW ASSEMBLY
- ⑨ 3/4" * SENSUS METER AND MOUNTING YOKE W/ DOUBLE CHECK
- ⑩ 3/4" * BALL VALVE
- ⑪ 3/4" * BRASS PIPE AND FITTINGS AS NECESSARY
- ⑫ FL X PE DI PIPE
- ⑬ FL X FL OS & Y GATE VALVE
- ⑭ FL X PE DI PIPE
- ⑮ MJ SHORT BODY SLEEVE
- ⑯ FL X PE DI PIPE
- ⑰ DETECTOR CHECK VALVE W/ DOUBLE CHECK BYPASS
- ⑱ FL DI SPOOL
- ⑲ FL X FL POST INDICATOR VALVE
- ⑳ FLEX COUPLER

* MEASUREMENTS SHOWN ARE FOR EXAMPLE ONLY. ACTUAL DIMENSIONS VARIES DEPENDING ON APPARATUS INSTALLED.

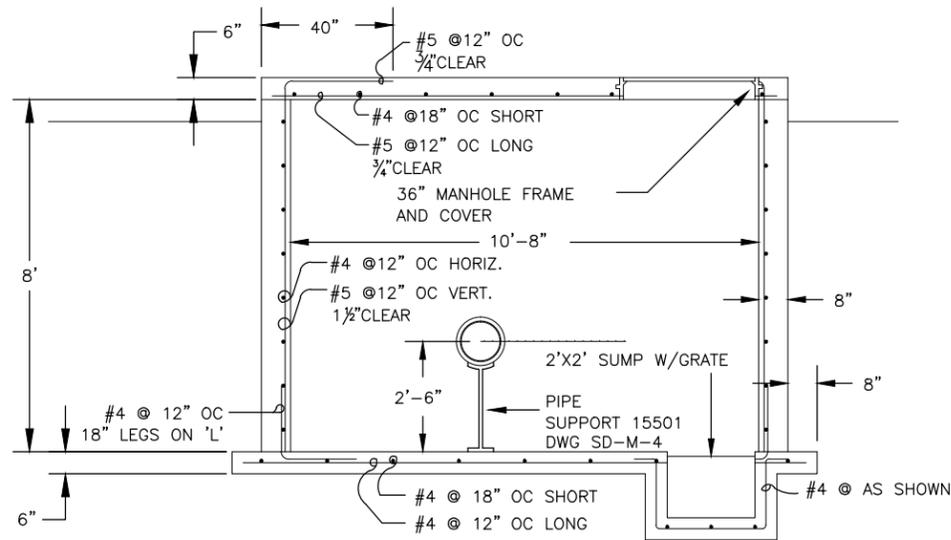
→ INDICATES FLOW DIRECTION



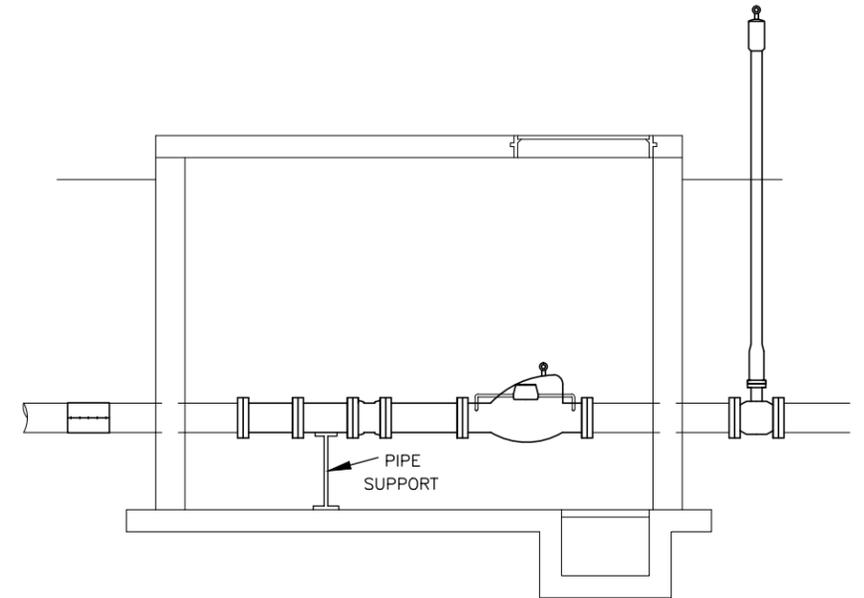
PLAN
SCALE: 1/2" = 1'



SECTION AA
NTS



**SECTION AA
REINFORCING DETAIL**
NTS



SECTION BB
NTS

- NOTES:
1. ALL EXPOSED PIPING SHALL BE THICKNESS CLASS 53 DUCTILE IRON
 2. ALL MECHANICAL JOINTS SHALL HAVE MEGA-LUG RETAINER
 3. ALL BURIED DI PIPE AND FITTINGS SHALL BE POLYETHYLENE ENCASED
 4. VAULT NOT DESIGNED FOR TRAFFIC LOADS

NO.	DATE	DESCRIPTION

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PROJECT MANAGER
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DRAWN BY
ESI
DRAWING SCALE
NTS
ISSUE DATE
JUNE 26, 2014

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VERNAL CITY
STANDARD DRAWING
WATER METER VAULT WITH FIRE SERVICE

447 EAST MAIN STREET
VERNAL, UTAH 84078

PROJECT NUMBER	14026V
SHEET	18
OF	20
SHEET NUMBER	18

PROJECT NUMBER	14026V
SHEET	18
OF	20
SHEET NUMBER	18

RING AND COVER USE PART # A-1180,
D & L FOUNDRY & SUPPLY
OR APPROVED EQUAL

FINISHED GRADE

FINISHED GRADE

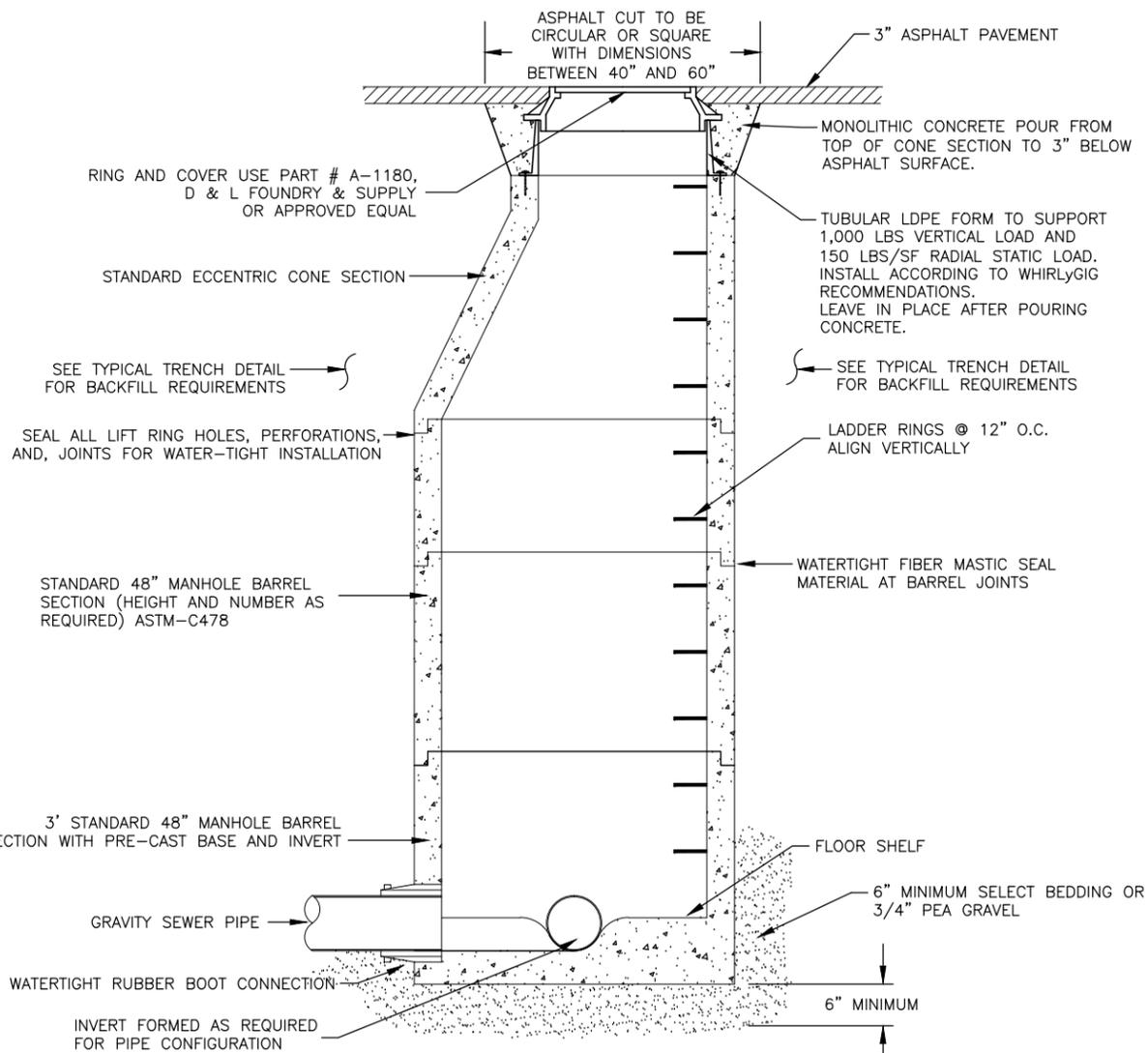
GRADE RINGS AS REQUIRED TO
MATCH EXISTING SURFACE

SEE TYPICAL TRENCH DETAIL
FOR BACKFILL REQUIREMENTS

STANDARD ECCENTRIC CONE SECTION

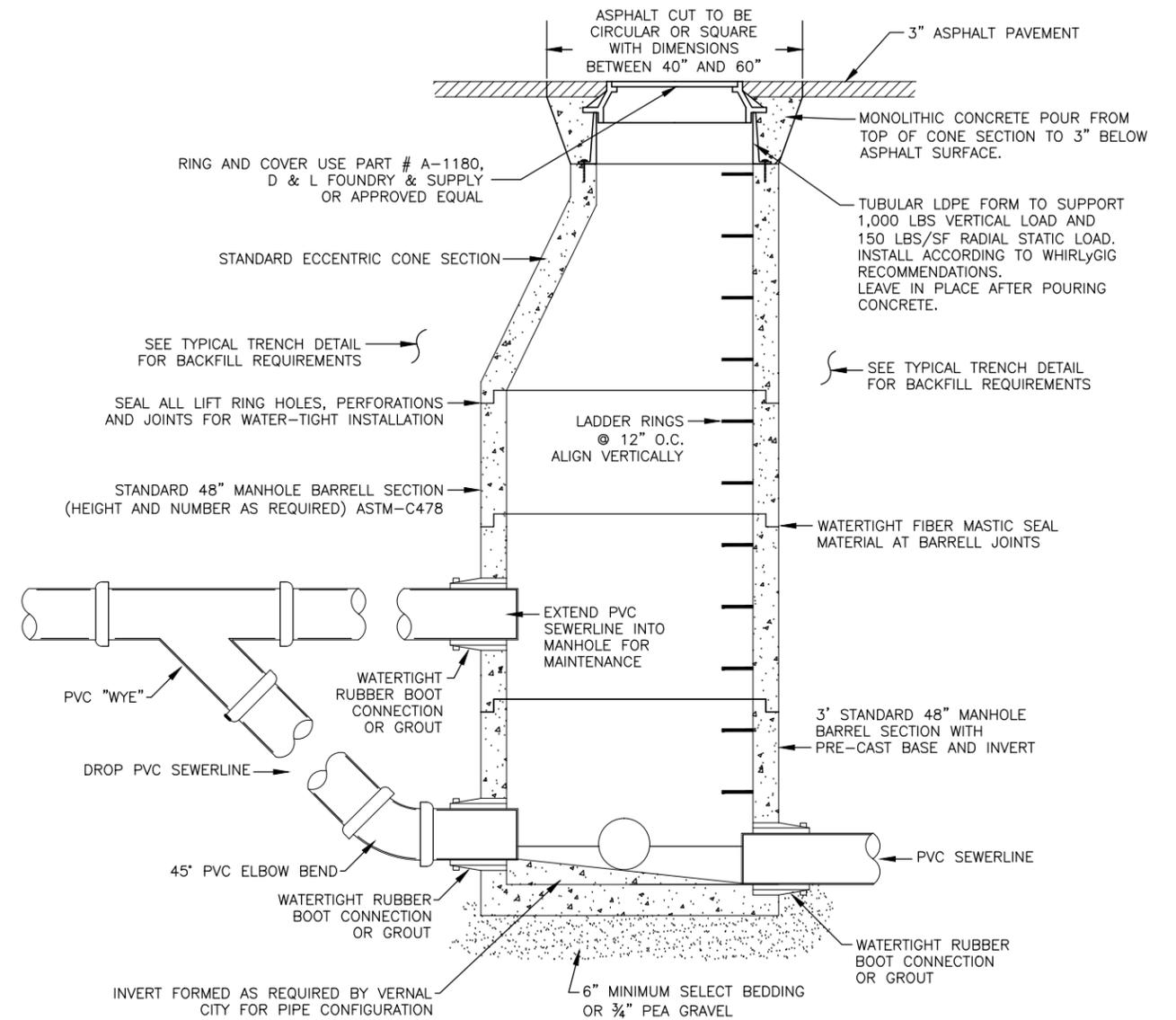
MANHOLE LID DETAIL - NON HARD SURFACE LOCATION

NOT TO SCALE



TYPICAL MANHOLE DETAIL - HARD SURFACE LOCATION

NOT TO SCALE



TYPICAL DROP MANHOLE DETAIL - HARD SURFACE LOCATION

NOT TO SCALE

NO.	DESCRIPTION	DATE

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PROJECT MANAGER
K. DESPAIN

CHECKED BY
K. DESPAIN

DRAWN BY
ESI

DRAWING SCALE
NTS

ISSUE DATE
JUNE 26, 2014

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VERNAL CITY
STANDARD DRAWING
TYPICAL MANHOLE DETAIL

447 EAST MAIN STREET
VERNAL, UTAH 84078

PROJECT NUMBER	14026V
SHEET	19 OF 20
SHEET NUMBER	19

PROJECT NUMBER	14026V
SHEET	19 OF 20
SHEET NUMBER	19

DETAIL DRAWING FOR:

GREASE INTERCEPTOR

330 - 5,000 GALLON CAPACITIES

DESIGN CRITERIA:

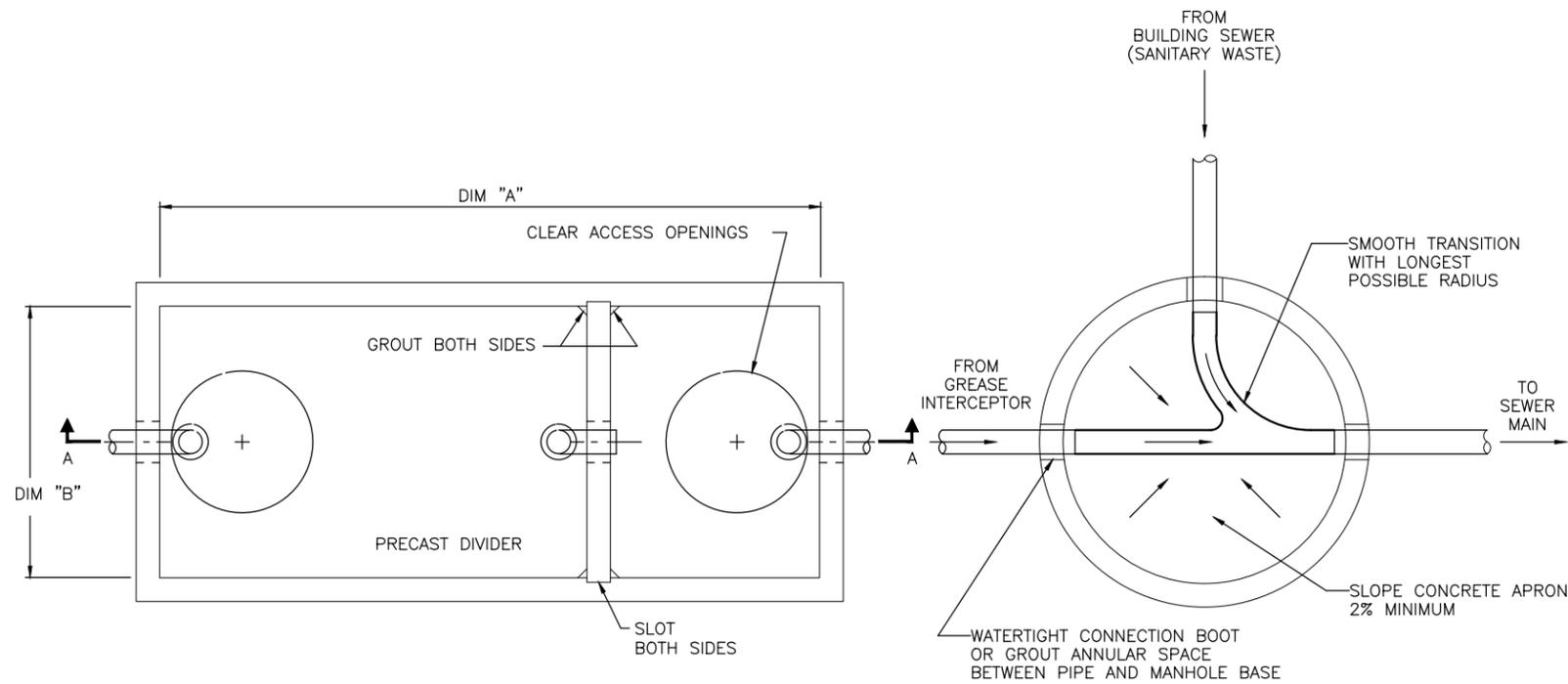
UNIFORM PLUMBING CODE - APPENDIX H

$$\text{NUMBER OF MEALS PER PEAK HOURS} \times \text{WASTE FLOW RATE} \times \text{RETENTION TIME} \times \text{STORAGE FACTOR} = \text{CAPACITY IN GALLONS}$$

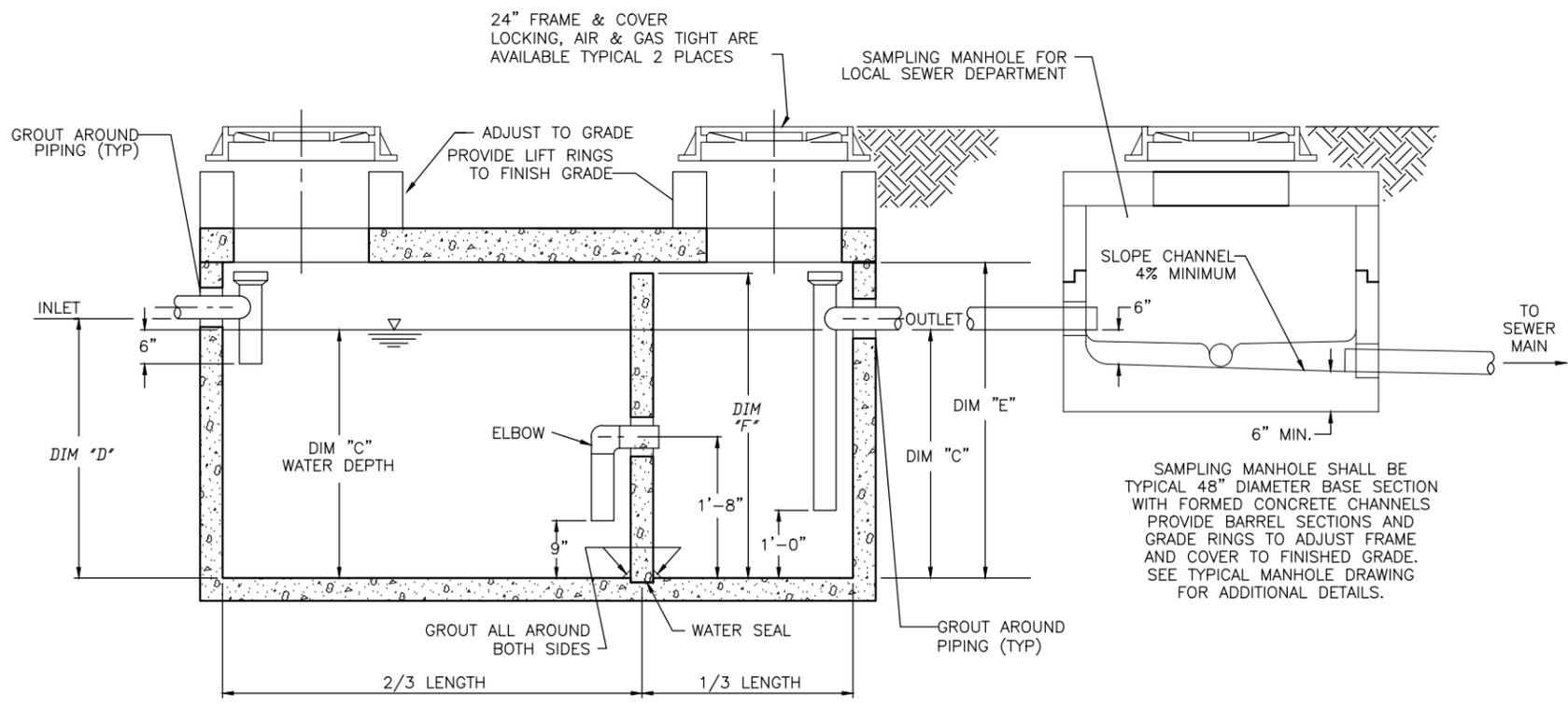
GALLON CAPACITY	330	510	750	1000	1500	1800	2500	3000	3500	5000
MODEL No.	463-GI	464-GI	4113-GI	4114-GI	4116-GI	4117-GI	6126-GI	6127-GI	6157-GI	6187-GI
DIM "A"	6'-0"	6'-0"	11'-0"	11'-0"	11'-0"	11'-0"	12'-0"	12'-0"	15'-0"	18'-0"
DIM "B"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	6'-0"	6'-0"	6'-0"	6'-0"
WATER DEPTH DIM "C"	2'-0"	3'-0"	3'-2"	3'-2"	4'-7"	5'-6"	4'-6"	5'-6"	5'-4"	6'-2"
DIM "D"	2'-2"	3'-2"	3'-4"	3'-4"	4'-9"	5'-8"	4'-8"	5'-8"	5'-6"	6'-4"
DIM "E"	3'-0"	4'-0"	3'-0"	4'-0"	6'-0"	7'-0"	6'-0"	7'-0"	7'-0"	7'-0"
DIM "F"	2'-10"	3'-10"	2'-10"	3'-10"	5'-10"	6'-10"	5'-10"	6'-10"	6'-10"	6'-10"
WEIGHT	10,200	11,850	19,575	22,500	26,100	27,300	33,025	34,450	42,700	63,822

NOTES:

1. CONCRETE: 28 DAY COMPRESSIVE STRENGTH $f'_c = 4500$ psi
2. REBAR: ASTM A-615 GRADE 60
3. MESH: ASTM A-185 GRADE 65
4. DESIGN: ACI-318-83 BUILDING CODE
ASTM C-857 "MINIMUM STRUCTURAL DESIGN LOADING FOR UNDERGROUND PRECAST CONCRETE UTILITY STRUCTURES"
5. LOADS: H-20 TRUCK WHEEL w/ 30% IMPACT PER AASHTO
6. FILL w/ CLEAN WATER PRIOR TO START-UP OF SYSTEM
7. CONTRACTOR TO SUPPLY & INSTALL ALL PIPING & SAMPLING TEES
8. GRAY WATER ONLY, BLACK WATER SHALL BE CARRIED BY SEPARATE SIDE SEWER



PLAN VIEW



SECTION VIEW AA

NO.	DATE	DESCRIPTION

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447 EAST MAIN STREET

VERNAL CITY
STANDARD DRAWING
 GREASE INTERCEPTOR

VERNAL, UTAH 84078

PROJECT NUMBER: 14026V
 SHEET: 20 OF 20
 SHEET NUMBER: 20